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ABSTRACT

As a follow-up to a study of education and training beyond basic schooling issued in 1985 by the Organization for Economic Cooperation and Development (OECD) and in response to the OECD's request, this paper presents a detailed case study of the United States that focuses on government policies and education and training options for 16- to 19-year-olds after their compulsory schooling is completed. The paper is divided into three main sections: (1) the description of the system, which includes descriptions of the providers of education and training programs and the options available to youths in pursuing education and training; (2) issues and government policies and provisions bearing on these providers and options; and (3) a review of the research evidence on special topics related to this age group. The following are among the conclusions of the study: (1) postsecondary educational and training opportunities for this age group are diverse and flexible; (2) coordinated standards of measurement are lacking; (3) the private sector has become the dominant provider of postsecondary training; and (4) the lack of an explicit national policy produces a lack of coordination among components of the system which may make it more difficult for young people to make informed choices; at the same time, such diversity produces a wide variety of choices and second chances. Data tables and references complete the document. (KC)

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Education and Training of 16- to 19-Year-Olds after Compulsory Schooling in the United States

Higher Education and Adult Learning Division
Office of Research
Office of Educational Research and Improvement
United States Department of Education
April 1988

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Education and Training of 16- to 19-Year-Olds after Compulsory Schooling in the United States

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United States Department of Education
April 1988

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Foreword

In 1985, the Organization for Economic Co-Operation and Development (OECD) issued a report *Education and Training Beyond Basic Schooling*. The paper observed, "The weakened position of young people in the labor market and the need to provide them with adequate routes and/or alternatives to employment lead public authorities to assume greater responsibility for all young people, not merely those who are catered to by the formal educational system."

The report further stated that

> in terms of general direction of policies specifically relevant to the young people coming out of basic full-time compulsory schools, i.e., the 16- to 19-year-old group, the majority of OECD countries tend to encourage the pursuit of various types of education and training as a more desirable alternative to subsidized employment, temporary work, unemployment benefits, etc. The increase in public responsibility which such policy entails, is, however, interpreted in a variety of ways and the degree of goverment intervention in this area is currently a major political issue.

As a follow-up to the 1985 study, OECD requested that the U.S. Government prepare a detailed case study of the United States that would focus on government policies and education and training options for the 16- to 19-year-olds after their compulsory schooling is completed. This paper is a response to that request.

The paper is divided into three main sections: the description of the system, which includes descriptions of the providers of education and training programs and the options available to youths in pursuing education and training; issues and government policies and provisions bearing on these providers and options; and a review of the research evidence on special topics related to this age group. While each section can stand alone, collectively they provide the reader with a vivid picture of the wide diversity of programs and opportunities available to Americans in the 16- to 19-year-old age group.

In considering government policies and programs in the United States, it is to be noted that each State is responsible for overseeing all formal education programs and for financing and operating the public education institutions in its territory. The Federal Government provides a limited amount of funds to State agencies, to eligible students, and to selected institutions in support of the formal education

system. At the same time, it provides public funds for training outside the formal education system.

The reader may be surprised, on the one hand, by the variety and scope of training activities available, and, on the other hand, by the apparent lack of cohesiveness in administration of and authority for these programs. Moreover, the education and training opportunities for the 16 to 19 age group are better explained in terms of two groups: the 16-17-year-olds and the 18-19-year-olds. In the United States, the vast majority of 16-17-year-olds are enrolled in school, whereas the 18-19-year-olds are about equally divided between those who are primarily attending school and those who are working.

This report was prepared by members of the Higher Education and Adult Learning Division (HE&AL) of the Office of Research in the Office of Educational Research and Improvement (OERI), U.S. Department of Education. The staff team was chaired by Nevzer Stacey and included Nabeel Alsalam, Jeffrey Gilmore, and Duc-Le To. In addition, HE&AL staff persons Clifford Adelman and Jerome Lord provided valuable advice and assistance. Publication of the report was managed by OERI's Information Services Office with Cynthia Hearn Dorfman, editor, Phil Carr, graphics chief, Nancy Young, type designer, and Thomas Litkowski, technical advisor for computer graphics.

The ideas expressed in this paper are the authors' and do not necessarily reflect the views of the Office of Research or the Department of Education.

The paper is not intended to reflect any single point of view but, as requested by OECD, provides a case study from a national perspective of the policies and programs that relate to youths in the 16- to 19-year-old age group. As most research does, this study raises as many questions as it answers.

Salvatore Corrallo
Director, Division of
Higher Education and
Adult Learning

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Highlights

Providers

- The postcompulsory educational and training opportunities available to 16- to 19-year-olds in the United States are diverse and flexible. Institutions that provide education and training offer a wide range of entry and exit points, and most show a considerable capacity to adapt to change. Their operations, as well as their financing, vary greatly from State to State, even within States. Some experts fault the system for its redundancy and lack of coordination among sectors, while others feel that such complexity contributes to its strength.

- There has been an increase, in recent years, in the number of institutions, such as employers and proprietary schools, which offer career-related courses.

Youth

- When describing the choices of 16- to 19-year-olds in the United States, it is necessary to bear in mind one important feature of American culture: For most youths, the major decision point in their lives is not at the end of compulsory schooling (mostly at age 16) but at the completion of high school at age 18. Therefore, the opportunities and choices for 16- to 19-year-olds fall into two distinct categories, those for 16-17-year-olds and those for 18-19-year-olds.

- In 1980, 38 percent of the high school students were in an academic track, 24 percent were in a vocational-technical track, and 36 percent were in a general education track. About half of all adolescents left school at the age of 18 or 19. Among them, 70 percent had completed high school or equivalent programs.

- In 1981, 32 percent of the students graduating in the 1980 senior class were enrolled in 4-year colleges, 17 percent were enrolled in 2-year colleges, 7 percent were enrolled in vocational-technical schools and other programs, and 44 percent were not enrolled in any postsecondary institution.

- In 1985, 92 percent of 16-17-year-olds were enrolled in school, and they had choices in selecting courses.

- In 1985, about 31 percent of the high school students 16-17 and 36 percent of the high school students 18-19 worked part time. The average numbers of hours worked by high school sophomores and seniors in a week were 12.6 and 19.4, respectively.

- Thirty-five percent of those who dropped out or did not graduate on time in 1982 had received a high school diploma 2 years later, and an additional 13 percent had returned to school but had not yet received a diploma.

- In comparison to the class of 1972, the students in the high school senior class of 1980 were more likely to work while attending college or other postsecondary institutions.

- In 1973, the proportions of working students in 2-year colleges, 4-year colleges, and vocational-technical schools were 58 percent, 30 percent, and 47 percent, respectively. By 1981, these proportions had increased to 64 percent, 48 percent, and 53 percent. The percentage of working students in 4-year colleges increased by over 50 percent.

Issues, Policies, and Programs at the State and Federal Levels

- A principal concern in the United States during the last decade has been the quality of education at all levels. The problems of the educational system for the years of compulsory schooling were brought to national attention by the release of the U.S. Department of Education-sponsored report *A Nation at Risk* in 1983. This report and others from States, associations, and other national and regional study groups made similar statements on the need to improve the quality of teaching, to raise high school graduation requirements in core academic disciplines, and to increase time-on-task and parental involvement.

- State and local policymakers' responses to the call for reform have ranged from strengthening requirements for teacher preparation to raising requirements for high school graduation.

- A brief review of State policies and programs for 16- to 19-year-olds reveals that students are being encouraged to pursue a more demanding sequence of academic courses during high school than was expected of them in the 1970s.

- Training is supported by the considerable investments of private corporations, individuals, and the Federal Government. States have the responsibility of designing and implementing training programs that are financed by the Federal Government.

- Federal policy is not expected to remedy all social problems, though it can play a useful role in focusing public attention on important problems, issues, and strategies for improvement.

- On issues pertaining to readiness for work, it has been a Federal policy to provide limited funds for vocational education and training. Most of these funds have been targeted for those classified as economically disadvantaged. There has been little coordination between vocational programs and other educational programs. In recent years, the principal initiative at the Federal level has been in the privatization of training, that is, getting private sector employers involved in the Job Training Partnership Act of 1982 through the development of Private Industry Councils.

Research Evidence on Special Topics

- Approximately 40 percent of dropouts return to school or take an alternate route to finish their education, but they fare less well in the labor market than high school graduates.

- Many States are raising requirements for high school graduation, and more students appear to be taking more academic subjects in the 1980s than did students in the 1970s.

- The proportion of 18-19-year-olds enrolled in college has risen from 51 percent in October of 1977 to 58 percent in October of 1985. The labor force participation rate of those not enrolled in school, that is, of those wishing to work, has stayed the same, but their employment rate has gone down from 67 percent to 62 percent in the same period.

Overview

The "system" of education and training in the United States is not one system but many different systems with varying degrees of interaction, commonalities of purpose and clientele, and levels of control. Since the U.S. Constitution reserves the responsibility for education for the States, and both State and local governments have traditionally shared this responsibility, it may be more accurate to present the U.S. system as a collection of 50 State systems and to view Federal policies and programs, developed in response to national needs, as overlays on those systems. While a significant amount of training is funded by Federal sources, the States are involved in identifying local needs and in administering and partially funding Federal programs through State matching grants.

This system becomes even more complex when funding patterns and educational levels are taken into account. Public primary and secondary education is controlled by local school boards and funded largely by revenues from State and local governments, which provide about equal shares with modest support (less than 10 percent) from the Federal Government. Private primary and secondary education, which is controlled by religious organizations or individual boards, is funded mostly by student tuition. Postsecondary education, on the other hand, is funded by a combination of public support (Federal, State, and local), student tuition and fees, private donations, endowment income and investments, and auxiliary enterprises. Postsecondary institutions may be governed by independent institutional boards, public boards of trustees, State agencies, or a combination of boards, depending on whether they are public or private institutions and the State in which they are located.

The education and training system available to 16- to 19-year-olds is a pastiche of programs designed, administered, and financed through a myriad of sources. Certainly, one of the most important features of education in the United States is its diversity and ability to offer a wide array of choices to its young and mature students. It also displays signs of overabundance. Today, for example, a 17-year-old can take an accounting course at a 4-year college, at a community college, at a proprietary school, through a correspondence school, at a neighborhood learning center, in a factory, or through a professional association such as the American Bankers Association. The course descriptions may sound similar, but the content and quality

may differ a great deal. This growth in the number and types of providers of postcompulsory education has caused some critics of the system to call it a "non-system" (Wilms, 1987).

Given this, it is impossible to describe in detail all the education and training opportunities available to 16- to 19- year-old youths, the policies influencing these opportunities, and the issues related to these opportunities and policies. This report deals with the complexity by giving an overview of the components—including both providers and consumers—of the Nation's education and training systems, by highlighting State and Federal policies developed to address major needs and deficiencies, and by focusing on current issues.

In most States, compulsory schooling ends on the adolescent's 16th birthday.[1] This would seem like the natural point at which to begin an analysis of the choices adolescents and their parents make with respect to their education. At this point, most have begun to think about careers and their future in the labor force. The paths they take will depend on their preferences and abilities, the options available to them, and financial constraints.

Yet, when describing the choices of 16- to 19-year-olds in the United States, it is necessary to bear in mind one important feature of American culture: For most youths, the major decision point in their lives is not at the end of compulsory schooling at age 16 but at the completion of high school at age 18. For this reason, any discussion of the opportunities and choices of American youth aged 16-19 must make some distinctions between 16-17-year-olds and 18-19-year-olds.

This paper describes the education and training investments of 16- to 19-year-olds with a special emphasis on issues and policies that influence the nature of the transition from compulsory schooling to further education, training, and work. By the age of 21, 85 percent of these young people will have graduated from high school or will have passed a State's General Educational Development (GED) Tests and obtained a high school general equivalency diploma.[2] Fifty-five percent will have continued with postsecondary schooling (U.S. Department of Education, 1986a). Others will have obtained jobs and full-time work. Some young people appear to do both and some do neither. Few decisions are irreversible. People may leave education and return later, not once, but several times over a lifetime, to complete "unfinished business" such as to receive a high school diploma or its equivalent.

For discussion purposes, the system includes providers, youth (the consumers), and policies. Providers are the vast array of institutions that offer education and training. Youth are the 16- to 19-year-olds who are making choices about their education and training. Policies influence the behavior of both youth and providers through the development of new programs and eligibility requirements. This report explores these three components of the system and then discusses three significant issues pertinent to the 16- to 19-year-old age group: the high school curriculum; high school dropouts; and working high school students.[3] The report emphasizes the events and social forces contributing to the development of the system components and the issues.

NOTES

1. Table 29 of the *Digest of Education Statistics 1985-86* (see U.S. Department of Educa-

tion, 1986a) indicates that 33 States allow adolescents to leave school on their 16th birthday. Seven and nine States require boys and girls to attend school until their 17th and 18th birthday, respectively. Only Mississippi allows teenagers to leave school before their 16th birthday, at age 14.

2. GED Tests are substitute tests for a high school diploma. The five tests in the GED, writing skills, social studies, science, reading skills, and mathematics, are designed to measure the major concepts of high school education.

3. These do not exhaust the topics that would be useful to discuss. Examples of other topics include part-time students, vocational education programs, handicapped youth, military training and education programs, the introduction of technology into the workplace, and youth unemployment.

Description of the System

Providers

The traditional providers of education in the United States are high schools, community colleges, 4-year colleges, and universities. Vocational and occupational education and training are offered through proprietary and technical schools. Employers provide mostly job-specific training. A substantial amount of employer training is provided on the job and is difficult to distinguish from work itself. Each of the military services operates a huge military occupational training system. Apprenticeship training in the United States is a small, but significant, portion of total U.S. skill training.

Providers of education and training in the United States can be clustered into three groups: school-based, work-based, and community-based (see figure).

School-Based Providers

This category includes institutions whose primary objectives are to educate and train their students. These institutions range from high schools to 2- and 4-year colleges and universities. Also included in this category are vocational, technical, proprietary, and correspondence schools.

Senior High Schools

Senior high schools generally include grades 10-12, and the modal ages of students in these schools are 15-17. Compulsory school age differs from State to State. In nine States it is 18, in seven States and the District of Columbia it

is 17, in 33 States it is 16, and in one State it is 14 (U.S. Department of Education, 1986a). In 1985, there were 12.4 million students in grades 9-12 in public schools and 1.4 million in private secondary schools. Except for schools specializing in preparing students for college or specific professions, most of the public high schools offer comprehensive programs in which students are allowed to select courses or tailor the curriculum to meet their personal needs and abilities. Most private high schools stress academic subjects and have little or no vocational emphasis. Although core requirements in public high schools have traditionally been few, the publication of the Department of Education report *A Nation at Risk*, in 1983, prompted a substantial effort to increase core requirements for all students. In 1980, 38.2 percent of all high school seniors were enrolled in academic-track (college preparatory) programs, 36.4 percent in general-track programs, and 24 percent in vocational-technical programs (U.S. Department of Education, 1986a). Per pupil expenditure for public elementary and secondary education in the school year 1984-85 was $3,449 of which 6.5 percent was provided from Federal, 48.6 percent from State, and 44.6 percent from local government sources (U.S. Department of Education, 1987c).

Four-Year Colleges and Universities

There are 3,340 accredited colleges, community colleges, and universities enrolling approximately 12.2 million students at both the undergraduate and graduate levels. Of the total, 2,029 institutions offer 4 years of full-time study leading to the baccalaureate degree (U.S. Department of Education, 1987a). These institutions vary considerably in their policies on enrollment, attendance, type of program, and graduation requirements. Although approximately 72 percent of the 4-year colleges and universities are private and are controlled by independent institutional boards of trustees, they enroll fewer than one- third of the students (U.S. Department of Education, 1986a). The proportion of baccalaureate degrees awarded in professional and applied fields (as opposed to traditional arts and sciences disciplines) has risen from 53.4 percent in 1975 to 61.5 percent in 1985 (U.S. Department of Education, 1987c).

Two-Year Colleges

A major share of postsecondary education is provided by public and independent colleges that award associate degrees after 2 years of full-time study.[1] These colleges also offer short-term certificate and diploma programs in specific areas. In 1983, approximately 1,300 community colleges were operating, the majority under public control, serving approximately 5 million students (U.S. Department of Education, 1986a). Most public community colleges have open admission policies (in many States they are required by law to admit any student holding a diploma from a public high school) but require students to take diagnostic placement tests after admission. Some community colleges even give credit for work experience. A wide variety of options in scheduling are offered, and 60 percent of the students are enrolled on a part-time basis. Half of the courses offered in these institutions are noncredit and serve occasional students seeking personal enrichment.

In 1985, community colleges awarded about one-half million associate (2-year) degrees. Although the growth rate of these degrees appears to have slowed somewhat in the early 1980s, it remains higher than the growth rate for baccalaureate degrees. An interesting and growing activity for these institutions has been

the proliferation of "customized programs" designed to meet the needs of employers; many of these programs are developed under formal contracts with employers or labor unions. Two-year colleges have become more vocational than academic (Grubb and Jaussaud, 1984). In 1970-71, 50 percent of the 2-year degrees and other formal awards were in vocational programs, and the rest were in arts, sciences, and general programs; by 1980-81, the vocational share had increased to 71 percent.

Postsecondary Noncollegiate Providers

Approximately 9,300 institutions offer programs in vocational and technical subjects and are often referred to as "career schools." Career schools are differentiated from traditional schools and colleges by their focus on relatively narrow, short-term vocational preparation programs. Career schools may be independent institutions or operate as part of traditional high schools or colleges, and may operate under independent or public control. Nearly 7,400 of these institutions operate independently of colleges and universities and offer both on- and off-site instruction. Of the total number of noncollegiate career schools, private proprietary schools (operating for profit) are the most numerous, constituting approximately 77 percent.[2]

There are nine principal types of noncollegiate, noncorrespondence career schools: cosmetology and barber schools, which account for 30.6 percent of the total; schools teaching business and office skills, 17.2 percent; hospital training schools, 10.9 percent; air flight schools, 10.8 percent; vocational-technical schools, 10 percent; trade schools, 9.9 percent; allied health, 5.1 percent; arts design schools, 3.3 percent; and technical institutes, which account for 2.2 percent (Carnegie Foundation for the Advancement of Teaching, 1987). There are also approximately 90 noncollegiate, correspondence schools operating in the United States, as well as a number of unclassified schools.

Transfer from these career school programs to 4-year higher education institutions is minimal, since the proprietary programs are terminal and generally do not include any coursework in traditional academic disciplines. The average cost of a private noncollegiate school program in 1980-81 was $2,200 for an average of 981 hours of instruction, as opposed to an average cost of $593 for an average of 1,324 hours of instruction in public noncollegiate programs (U.S. Department of Education, 1986a). In 1982, nearly 1.6 million students were enrolled in public and private career schools, with an average school enrollment of approximately 220 (Carnegie Foundation for the Advancement of Teaching, 1987). Almost three-quarters (72 percent) of all postsecondary vocational students are enrolled in proprietary schools. The quality of these schools appears uneven. As of 1984, only about 45 percent of these schools were accredited by one of the three proprietary school accrediting associations, which are supposed to identify minimum standards of quality (Wilms, 1987).

Correspondence Schools

Today, more than 5 million Americans are enrolled in home study courses undertaken through the mail. Correspondence study is accredited or evaluated through three major organizations in the United States:

1) the National Home Study Council (NHSC) which, with its independent accrediting commission, has 90 member schools ranging from small religious institu-

tions to the Armed Forces Correspondence Institute enrolling nearly one-half million servicemen and women, and from private business and industry schools to publicly sponsored schools. NHSC member schools have course work in 283 categories;

2) the National University Continuing Education Association (NUCEA) which is made up of divisions or departments of regionally accredited colleges and universities. The membership includes 72 accredited colleges and universities that offer 12,000 courses at the high school, undergraduate, and graduate levels, as well as noncredit courses; and

3) the Program On Noncollegiate Sponsored Instruction (PONSI) which is a division of the American Council on Education (ACE) and administers independent evaluations of home study and other courses for college credit. Over 1,500 colleges and universities accept PONSI evaluations for transfer credit toward graduation requirements.

Among the most popular courses taken through correspondence study are business, high school equivalency courses, electronics, engineering (mid-level technician training), other technical and trade courses, and art (Valore and Diehl, 1987).

A 1978 survey conducted by the NHSC found that the average NHSC student is between 25 and 34 years old, that 3 out of every 4 students are male, and that courses offered typically require a year to complete.

Work-Based Providers

Although a rather small portion of 16- to 19-year-olds is enrolled in work-based education and training programs, this category has shown the most noticeable growth in the past decade. The primary responsibility of these providers is to conduct business, not to educate or train. However, due to technological changes in the workplace, as well as the need to remedy the basic skill deficiencies of entry-level employees, employers (principally private, but also public) are integrating employee education and training programs into their business activities.

Employers

While no accurate accounting of expenditures for education and training is available for employer-sponsored programs, what data exist indicate that "corporate learning has become an absolutely essential part of the educational resources of the nation" (Boyer in Eurich, 1985, p. ix). Estimates of corporate expenditures for education and training range from $40 billion to $100 billion—compared to the approximately $130 billion spent annually on public education. Employee enrollment in corporate-sponsored programs is estimated at nearly 8 million students.[3]

According to Boyer, corporate learning, which Boyer calls the "third leg" of the Nation's total education enterprise, is provided in a number of ways:

1) in-house educational programs, which include a wide range of training programs, seminars, and institutes offered in the workplace;

2) educational and training facilities, which are separate facilities, often similar to college campuses in appearance, with classrooms, dormitories, and libraries. Examples include the Holiday Inn University, the ARCO campus at Santa Barbara for top executives, the New England Telephone learning center (which accommodates 9,000 employees attending classes during the summer), the Xerox learning center in Leesburg, Virginia, and even McDonald's Hamburger University for merchandising and retail sales training;

3) accredited corporate colleges that grant their own degrees. Examples of these degrees include the Rand Ph.D. and the Wang and Arthur D. Little Master of Science degrees, to name but a few of the twenty or so such programs;

4) satellite universities (such as the National Technological University), which beam coursework by satellite to corporate classrooms around the country; and

5) cooperative ventures, which include courses held at corporate facilities but staffed by university-based faculty, employee tuition assistance for refund policies for coursework taken at traditional colleges, part-time training programs using outside assistance, and cooperative arrangements with local educational institutions, particularly community colleges, for training purposes.[4]

Cooperative ventures are most common for corporations with fewer than 500 employees (by far the majority of businesses). According to the most recent survey in 1981, 57 percent of all employer-sponsored courses were conducted in house, and 43 percent of courses were taken at outside institutions. In all, corporations paid for over 12 million courses. In comparison, individuals and families paid for 17 million courses (Eurich, 1985, p. 21).

At the other end of the spectrum are the Fortune 500 companies and, especially, several high technology firms such as IBM, Xerox, Boeing, and McDonnell Douglas that spend between 2.5 and 3.3 percent of their sales revenue on education and training (Carnavale and Goldstein, 1985). In short, after 2- and 4-year colleges and universities, "business and industry ranks next as [an] educational provider in the United States" (Eurich, 1985, p. 21).

Corporate education and training programs have some common characteristics:

1) young workers between the ages of 17 and 24 receive less training than older workers aged 25-34 (Zemsky, 1983). The younger group averages 1.28 years of training versus 1.95 years of training for the older group;

2) up through the B.A. degree, the amount of on-the-job training employees receive is positively correlated to the number of years of education they have had (Hoffman, 1981);

3) white collar workers (particularly professional and technical employees) receive a large share of the training;

4) employees of regulated industries (primarily public utilities, public transportation, and banking institutions governed by government-appointed boards of commissioners) receive a significant amount of training; and

5) craftsmen also receive a significant amount of training.

Trade Unions and Apprenticeships

Approximately 600,000 union members are involved in education and training through apprenticeship, union education, labor studies, and negotiated tuition-aid programs. There are over 730 apprenticeable trades in the United States. While an exact accounting is impossible, there appear to be about one-half million participants in apprenticeship programs, which range from 3 to 5 years in length (U.S. Department of Labor, 1984). Although apprenticeship training is a very small portion of total training, it is an important component, especially for craft workers. Unions also provide education and training to their members through labor studies programs at educational institutes or through their own facilities. Through the collective bargaining process, unions also negotiate for tuition aid so that their members can take courses on their own time in colleges, community colleges, and universities (Stacey and Charner, 1982).

Professional Associations

The national survey Trends in Adult Education (Hill, 1987) does not distinguish between professional associations and labor organizations. Hence, no accurate estimate of the education and training offered by professional associations exists. However, according to a survey of the major engineering and technical societies in the United States and Canada (Greenwald, 1977), conducted by the American Society of Mechanical Engineers in 1977, approximately 50 percent of the engineers in the United States hold memberships in societies that are conducting or developing continuing education programs, either individually or in cooperation with other societies, universities, or proprietary organizations. A more recent study, sponsored by the American Bankers Association in 1985, found that 12 percent of all training in the banking industry is done by professional associations (American Society for Training and Development, 1985).

Public Employers

According to a National Institute on Education study conducted in 1977, approximately 3 million public sector employees received education and training either paid for or offered by their employers (Smith, 1979). Thirty-nine percent of Federal civilian education and training was for upgrading employees' technical skills, and the remainder was for instructing the employees in a variety of areas. Analysis of this data indicates that those with the higher salaries had proportionally more education/training experiences, a pattern which would indicate that very few, if any, of the 16- to 19-year-olds would benefit from these opportunities.

Military

The purpose of military training is to prepare personnel to assume jobs in military units. Over 33 percent of all Department of Defense (DOD) military training is designed to provide initial orientation to a job, over 55 percent is specialized skill training, and over 95 percent provides new skills to participants. DOD offers over 7,000 courses, ranging in length from 5 to 25 weeks. An average of one-quarter million

military personnel are in formal training daily, with many taking more than one course annually.

Community-Based Providers

Community organizations such as churches, the Red Cross, cultural organizations, and civic, social service, and other groups offer formal educational programs. Although no survey describes the universe of these providers, or gives information on the number of 16- to 19-year-olds who take their courses, most of the participants in these programs are believed to be older adults.

NOTES

1. Degrees are awarded based on credits earned, not time spent in the system. Some students are able to earn an associate degree in 1 1/2 years while others may take considerably longer.

2. Carnegie Foundation for the Advancement of Teaching (1987). The numbers and percentages used in this article are from the 1981 HEGIS Survey of Postsecondary Career Schools, Center for Education Statistics, U.S. Department of Education.

3. For a discussion of these estimates and related studies see Eurich (1985) pp. 6-8.

4. Adapted from Boyer and Eurich (1985).

Youth

It is necessary to distinguish between the postcompulsory education activities of 16-17-year-olds and 18-19-year-olds in order to get a true picture of the postcompulsory terrain. Table 1 illuminates this distinction. In 1985, 92 percent of the young adults aged 16-17 were enrolled in school. Among them, 96 percent were in school below college level and 4 percent were in college.[1] In other words, most adolescents decided to stay in school and did not consider other alternatives until completing high school (U.S. Department of Commerce, Advanced October 1985). The percentage of youths enrolled in school at the ages of 16 and 17 in 1985 was slightly higher than it was in 1967.

The Postcompulsory Activities and Choices of 16-17-Year-Olds

Most of these students attend 4-year senior high schools, although some of them attend 3-year high schools, 6-year combined junior-senior high schools, or special vocational-technical high schools with programs of varying lengths.[2]

Curricular Choices

In 1980, 38.2 percent of the high school students were in an academic track, 36.4 percent were in a general education track, and 24.4 percent were in a vocational technical track (Fetters et al., 1984). Students in different tracks usually have different plans for activities after high school. Those who expect to attend college are more likely to follow the academic track. However, the curriculum taken by students in high school does not prevent them from going to college. A 1982 follow-up survey of 1980 high school seniors indicated that while 80.7 percent of the academic track students went on to college, 37.8 percent of the students who followed a vocational track in high school and 50.6 percent of the general- education track students had also enrolled in postsecondary education (Gardner, 1987).

Working Students

Diversified curricula are not the only characteristics of high schools in the United States; another important feature—working part-time while enrolled in high school—should not be neglected. As shown in table 2, approximately 31.5 percent of the high school students worked part time in 1967, and this percentage has remained relatively unchanged. In 1985, about 31.2 percent of the high school students worked part time. The time devoted to part-time work was also substantial. In 1980, the average numbers of hours worked by high school sophomores and seniors in a week were 12.6 and 19.4, respectively. Although the possibility of working part time differs among

demographic groups (see section on working high school students), it does not seem to correlate with family income (Lewin-Epstein, 1981).

Leaving School

It is not clear whether diversified curricula and the opportunity to work part time affect the timing of graduation. What is known is that about 14 percent of the 1980 high school sophomores left school before completing the requirements for graduation (Peng, 1983).[3] Students are more likely to drop out in their sophomore or junior years than in the senior year.[4] But, follow-up surveys of high school students have shown that 35 percent of those 1980 sophomores who dropped out or did not graduate on time in 1982 had received a high school diploma by 1984 and that another 13 percent had returned to school but had not yet received a diploma. Students who dropped out in their senior year were more likely to return to school than those who dropped out in their sophomore or junior years (Owings and Kolstad, 1985). Nevertheless, more than half of the 1980 dropouts did not return to complete their high school programs.

Those who do not return to school may take General Educational Development (GED)[5] Tests administered by State Governments and can obtain a high school equivalency diploma. (More discussions on this are in the section on high school dropouts.) Even without a GED certificate, they may still gain access to higher education, as some postsecondary institutions (especially community colleges and proprietary schools) do not demand a high school diploma or GED as a condition for entry (Finn, 1987).

Activities and Choices of 18-19-Year-Olds

Overview: Where They Are

According to the 1984 Current Population Survey, about one-half of all adolescents left school at the age of 18 or 19. Among them, 70 percent had completed high school or equivalent programs (U.S. Department of Commerce, Advanced October 1985). Table 3 summarizes the activities of the classes of 1972 and 1980, 4 years after high school graduation. In 1981, 44.2 percent of the students in the 1980 senior class were not enrolled in any postsecondary institution, 32.3 percent were enrolled in 4-year colleges, 16.8 percent were enrolled in 2-year colleges, and 6.9 percent were enrolled in vocational-technical schools and other programs. Among those not going on to further study, 55 percent worked full time, 25 percent worked part time, and the remaining 20 percent were either unemployed or not in the civilian, paid labor force (i.e., military personnel, homemakers, those not looking for work, prisoners, etc.).

Working Students

As indicated by table 2, many students who are enrolled in postsecondary institutions work, especially those attending 2-year colleges. In comparison to the class of 1972, students in the high school senior class of 1980 were more likely to work while attending college or other postsecondary institution. In 1973, the proportions of working students in 2- year colleges, 4-year colleges, and vocational-technical schools were 57.5 percent, 29.7 percent, and 47.3 per-

cent, respectively. By 1981, these proportions had increased to 64.3 percent, 47.7 percent, and 52.6 percent. The percentage of first-year students who were working while in 4-year college increased by more than 50 percent. However, for both cohorts, students were more likely to work in the junior and senior years than in the freshman and sophomore years. As indicated by table 2, 47.7 percent of the class of 1980 worked while attending 4-year college in the first year after high school graduation. In the fourth year, 60.2 percent of them worked while attending college. This particular attendance pattern parallels the increase in part-time students in recent years. From 1970-1984, the percent of part-time students in higher education increased from 32 percent to 42 percent. In 1983, 64 percent of the students in public 2-year colleges were attending part time. For all public postsecondary institutions, only 55 percent of the students were attending full time (U.S. Department of Education, 1983, 1986b). While these trends could have resulted from changes in the labor market, many other factors may have also contributed to these changes, e.g., higher tuition and costs of attending college. The increasing flexibility of class schedules in institutions of higher education may also have been a factor. Today, almost all colleges and universities offer evening and weekend classes, thus allowing full-time workers to use their nonwork time for study.

Some other significant changes from the 1972 to the 1980 high school classes are also shown in table 3: 1) More people attended 2-year colleges (especially those who worked) and fewer attended vocational-technical schools; and 2) even though the percentage of people working and not in school remained fairly stable, more of them were working only part time.

Flexibility of the System

Delayed Entry into College

Although most students planning to further their education enroll in postsecondary education immediately after high school, some delay their college attendance. According to a survey of 1980 high school seniors, 25.3 percent of the students delayed their entry into postsecondary institutions. Approximately 11 percent waited about 2 years after graduation before enrolling. There was no strong correlation between delayed entry and family income, though statistics show the delayed entry percentage was much higher for students from low socioeconomic status (SES) families (34 percent of the low SES students delayed entry to higher education while only 19 percent of the high SES students delayed entry to college) (Carroll, 1985). Delayed entry also depends on students' high school curricula and educational expectations. While 16 percent of the students in academic tracks delayed postsecondary education, 29 percent of the students in general tracks and 40 percent of the students in vocational programs postponed their attendance.

Transferability of Credits

A notable feature of postsecondary education in the United States is the transferability of credits to different programs and schools. A longitudinal survey of the 1980 high school seniors who enrolled in higher education after graduation reveals that about 14.2 percent of public 2-year college students transferred to other schools in the first year and 31.4 percent transferred in the second year. Among the latter, 77.8 percent transferred to 4-year colleges. In other words, approximately a quarter of 2-

year college graduates (31.4 percent x 77.8 percent) did not quit schooling but advanced to 4-year colleges and universities. Another study also indicates that over 60 percent of those in the high school class of 1972 who received bachelor's degrees by 1984 attended two or more institutions and that 11 percent earned associate's degrees from 2-year colleges en route to their bachelor's degrees.

Most of the transfers of 4-year college students occurred during the students' first year (17.8 percent and 16.6 percent of all first-year public and private college students, respectively, transferred during their first year). Some students transferred in the second year (7.2 percent for public and 8.1 percent for private), but very few transferred as juniors or seniors (fewer than 3 percent) (Carroll, 1986). Most of the transfers were to other 4-year colleges and universities; it is unusual for a 4-year college student to transfer to a 2-year college. (The percentages of 4-year college students transferring to 2-year colleges are 11 percent for public and 8.5 percent for private school students (Carroll, 1985)). The number of transfers between vocational-technical schools and 2- or 4-year colleges was not large but was still quite significant (Carroll, 1985, 1986).

Interrupted Studies

The flexibility of postsecondary education in the United States allows adolescents to move in and out of the system during the early years of their careers. Using consecutive surveys of the National Longitudinal Study (NLS-72) from 1972 to 1976, Meyer and Wise (1982) observed how the 1972 high school seniors moved in and out of the school system. The percentage distribution of the male youths following different schooling patterns (sequences) is shown in table 4.[6] As indicated, in 1972, 51.4 percent of the students continued to enroll in college or other schools immediately after high school.[7] About 36.4 percent left school and did not enroll again during 1972-1976. Approximately 12.2 percent left school in 1972 but returned within 4 years (enrolled either in high school or postsecondary education). However, not all of the students who ever enrolled after high school experienced continuous (uninterrupted) study. An estimation based on the data in table 2 indicates that approximately 14.4 percent of the students interrupted their studies.[8] Among those who had ever enrolled, 22.6 percent interrupted their studies and moved in and out of formal schooling.[9]

Options for Out-of-School Youth

As mentioned earlier, 8 percent of young adults aged 16-17 and 48 percent aged 18-19 are not enrolled in school. What educational opportunities are available for these adolescents? Government- and employer-provided training programs, military training, apprenticeships, and other adult education programs are important alternatives to formal schooling, but it is not known how many youth take advantage of these opportunities. Available data do not provide a breakdown for 16- to 19-year-olds.

Adult Education

Increasing numbers of people take adult education courses and greater proportions are now taking courses for job-related reasons. In 1969, the number of courses taken for job-related and nonjob-related reasons was about the same (approximately 10,000 each). By 1984, the number of job-related courses taken had nearly tripled (to almost 27,000) while nonjob-related courses taken had increased to only

15,000 (Hill, 1987). In 1984, 53 percent of the young adults aged 17-24 took adult education courses in order to get new jobs or advance in current jobs, and 13.5 percent took courses to complete requirements for professional licenses. In other words, adult education programs are now more work oriented than they were 2 decades ago, and youth are participating in these programs in significant numbers.

Employers today seem to be more willing to share the costs of adult education courses with their employees than they were 2 decades ago. According to Hill (1987), 36 percent of all adult education courses were financed by employers in 1984, a significant increase from the 23 percent in 1969. The public share, from State and local sources, of financing these courses also increased during that time period from 10 percent to 15 percent. As a result, only 47 percent of the participants paid tuition on their own in 1984, compared to 57 percent in 1969. For youths aged 17-24, the percentage of courses financed by employers in 1984 was somewhat lower. Only 22.9 percent of their courses were financed by employers.

Training Programs

Some adolescents may participate in a variety of government-provided training programs while they are in or out of school. Some are residence programs where classes are held at public training centers; others simply provide funds and counseling services to participants and arrange for them to enroll in schools or work in firms. Besides public training programs, young adults may also enroll in apprenticeship programs financed by employers or unions. The programs involve planned on-the-job training in conjunction with classroom instruction (on average, 144 hours each year). Apprenticeships are completely controlled and organized by employers and local trade unions which interview applicants, review the trainees' progress, and determine whether the apprenticeships are completed satisfactorily. Unfortunately, no exact estimate of participants in apprenticeship programs exists because only half of them are registered with the U.S. Labor Department's Bureau of Apprenticeship and Training (BAT). According to surveys of high school seniors in 1980, about 2.4 percent of the students expected to participate in apprenticeship programs, a slight decrease from the 2.7 percent in 1972 (Fetters et al., 1984).

Young adults do not necessarily obtain training from the civilian sector; some learn their skills in the armed services. In 1955, about 5.1 percent of the young persons aged 16-19 were in the military. However, the percentage declined as the military draft ended in the early 1970s. In 1980, only 1.8 percent of the 16-19 age group were in the armed services.[10] As the military changed from the draft to all-volunteer, corresponding changes in the demographic composition of the armed services occurred. In the early 1980s, the armed services had a greater percentage of high school graduates than it had 10 years before. In 1982, more than 80 percent of the personnel in the armed services were high school graduates. In 1972, only the Air Force had more than 80 percent of its personnel with high school diplomas. (The percentages of high school graduates in the Air Force, Army, and Marine Corps were 83 percent, 61 percent, and 52 percent, respectively).

Since the average number of years of service in the military has declined significantly from 14.3 to 11.6 from 1971 to 1982, the increased necessity of training by the military has become a concern. As indicated by the U.S. Department of Defense (1981, p. 3), 55 percent of the training for active forces and 41 percent of the training for reserve forces was specialized skill

training. The extent to which this training can be applied in the civilian labor market is unclear. Working with data on a national sample of males born between 1930 and 1939, Coleman (1982) found a positive effect of military service on both the prestige and income level of the first full-time civilian job. However, an updated study of the transferability of military skills to the civilian labor force is necessary.

Summary

As mentioned earlier, young people in this country have a variety of options for acquiring education and training after compulsory schooling. The timing and content of training differ from person to person, depending on the individual's circumstances and personal needs. The system seems to be flexible enough to allow people to change course in their early career development years. Some institutions or providers, such as 2-year community colleges, play an important role in linking informal training to formal schooling. With such links, young adults can adjust their educational plans easily—whenever they need to go back to school to upgrade their skills, for instance.

NOTES

1. The finding that 8 percent of the 16-17-year-old youths did not enroll in schools seems to be inconsistent with the high school dropout rate (14 percent) cited later in this paper. Statistical discrepancies among different datasets may be the main reason. The other possibility is that a significant proportion of the dropouts returned to school later. These students were not excluded from the calculation of dropout rates. See discussions later in this section.

2. For a graphic depiction of the structure of formal education in the United States, see U.S. Department of Education (1986a), p. 4. For enrollment statistics of high schools with different grade spans, see U.S. Department of Education (1984), table 1.9.

3. This percentage is based on High School and Beyond data. The alternative approach for calculating graduation rate by dividing the number of public high school graduates by the public 9th grade enrollment 4 years earlier shows that the graduation rate for public school students in 1985-86 is only 70 percent. (This number has been adjusted for transfers and interstate population migration.) The graduation rate for private school students is not available. See *State Educational Statistics Supplement: Student Performance and Resource Inputs, 1985 and 1986* (U.S. Department of Education: Office of Planning, Budget, and Evaluation).

4. Based on U.S. Department of Education (1986a), table 9, p.12, persistence or retention rate from a specific grade to the next grade can be calculated. The results indicate that, in 1975, the persistence rate was 0.903 percent from grades 10-11, 0.919 percent from grades 11-12, and 0.936 percent from the 12th grade to graduation.

5. In 1982, about 492,000 persons passed GED examinations. Among them, 37 percent were 19 years old or under, and 68 percent were under 29 years old. See U.S. Department of Education (1984), table 4.7.

6. By indicating the status "in school full time" as 0 and "not in school full time" as 1, they defined 32 different sequences that described students' schooling status from 1972 to 1976. For example, the sequence 10101 indicates in school full time in 1972, 1974, and 1976, but not in school full time for 1973 and 1975.

7. Any sequence beginning with "1" is in this category.

8. To estimate the percentage of students who interrupted their studies, the proportion of students who had ever enrolled in school from 1972 to 1976 was calculated (this can be obtained by subtracting 36.4 percent from the total 100 percent, that is, 63.6 percent.) Then, the percentage of students whose studies were interrupted was calculated, that is, 49.2 percent (including sequences 11111, 11110, 01111, 11100, 00111, 11000, 01100, 00011, 10000, and 00001). Finally, the difference between the proportion of those who had ever enrolled and the proportion of those whose studies were uninterrupted represents the proportion of those who enrolled, but whose studies were interrupted.

9. This percentage was calculated by dividing 14.4 by 63.6.

10. Percentages are derived from U.S. Department of Labor (1982), tables A-1 and A-2.

Issues, Policies, and Programs at the State and Federal Levels

Rooted in a philosophical and constitutional framework favoring a decentralized system of education and grounded in a culture that supports private enterprise, self-help, and a "marketplace" approach to the resolution of issues (Norris, Lasher, and Brandt, 1977), the United States has not been guided by a comprehensive national plan or policy for education and training. Rather, an accumulation of decades' worth of Federal, State, and private initiatives dealing with an assortment of specific educational, social, political, defense, and employment problems has affected the educational and training opportunities of American youth (Clague and Kramer, 1976).

Under the United States Constitution, education is the responsibility of the States. States can choose to take their own initiatives in establishing policies and programs, provided that they do not contravene Federal regulations or laws. It is up to each State to interpret and implement, in light of its own circumstances and priorities, appropriate programs and policies. In some cases, nationally identified issues affect the direction of policy discussions at the State level. In other cases, innovative programs at the local and State levels serve as examples of possible solutions to pervasive problems that may be addressed at the Federal level. Even when education and training programs are partially Federally funded, as in the case of vocational education and job training, it is the responsibility of the States to design appropriate programs to operate with allocated funds.

This section of the report will examine current issues and State and Federal responses to them. It will begin with an overview of State-level issues followed by a presentation of State programs addressing those issues. A discussion of Federal initiatives related to the same areas of concern will conclude this section of the report. Although presented as separate parts, it must be remembered that State and Federal policies and programs do not operate in isolation from each other. While sometimes working at cross purposes, often these initiatives achieve a partnership in influencing the behavior of 16- to 19- year-olds and the offerings of the variety of education and training providers.

Issues at the State Level

Several issues appear to have caught the attention of State policymakers and have become the subject of numerous reports prepared by the National Governors' Association (NGA), the Education Commission of the States (ECS), the National Council of State Legislatures (NCSL), and other national and regional organizations serving the States. All these reports describe a common core of issues with a call for a heightened State policy role. Three of these issues which illustrate the heightened State policy role are: the problems of at-risk populations, illiteracy, and the role of education and training in economic development and industrial competitiveness.

The severity of the problems differ from State to State, depending somewhat on demographics. However, almost all the States have identified these issues and are either implementing new policies and programs or are planning to do so in the near future.

At-Risk Youth

One of the suggestions on how to serve the needs of at-risk youth has been to conduct dropout prevention programs. The Business Advisory Committee of the Education Commission of the States, in its 1985 report *Reconnecting Youth* (ECS, 1985), highlights the threat of school dropouts to the Nation's well-being and challenges State and local policymakers to remedy the situation. Some of the issues that the States are dealing with include defining the term "dropout," determining the magnitude of the problem, and designing programs for lower grades that will prevent students from dropping out in later years. The States are also grappling with issues concerning the type and duration of funding for dropout prevention programs.

Illiteracy

Another issue of immediate concern to State policymakers is illiteracy. Although older adults are the majority of the illiterate population, State adult literacy strategies cut across all age groups and through all the vehicles which reach the illiterate population. According to a recent report released by the National Governors' Association *Bringing Down the Barriers (*NGA, 1987), State policymakers are focusing their discussion of illiteracy on the following strategies: increasing the achievement of children as they grow up, providing second chance educational opportunities in diverse settings (often outside schools), and providing work-related education and training to meet the changing demands of the work place. Specifically, State policymakers are concentrating on cooperating with State agencies, the private sector, and volunteer groups to address this problem. While generally reforming elementary and secondary education, States are planning to help welfare recipients learn to read.

Economic Development

Economic development and its link to education and training is a third issue. To prepare workers for a climate of industrial competitiveness, State officials are projecting future skill requirements, identifying ways to prevent adverse economic trends, and coordinating public and private resources. State officials are also creating jobs for youth as well as trying to retain jobs within communities throughout the State.

In addition, States continue to develop plans and implement policies and programs designed to improve the public schools as an investment in future economic development. Because each State must measure its educational needs by its own criteria, these plans are diverse and establish many different processes for change. Nevertheless, the States share a number of concerns: improving the teaching profession, integrating technology into instruction, upgrading the school curriculum, strengthening graduation standards, raising teacher certification requirements, promoting business involvement in education, and working on ways to finance these reforms (NGA, 1987).

Policies and Programs at the State Level

At-Risk Youth

In responding to the needs of at-risk youth, most States have designed and are conducting special programs. The following are examples of comprehensive, State-initiated policies and programs.

The California legislature passed a bill (SB65) in 1985 to help school districts keep youth in school. The three components of this law are: 1) grants that are available for all districts to plan or implement programs designed to motivate and keep students in school; 2) funds that are provided to districts with high dropout rates for establishing alternative education programs and cooperative work centers that teach basic skills, operate diagnostic centers, and provide training, counseling, and placement services; and 3) funds that are provided for educational clinics to assist dropouts in improving their basic academic skills. California also maintains a model program data bank which stores information on strategies for intervening when a problem is detected.

Colorado has two dropout initiatives, one of which is providing funding for Second Chance pilot programs for youth 16-21 years old who have dropped out of high school. In Massachusetts, the Chapter 188 School Improvement Act assists school districts with dropout prevention programs. Funds are awarded as competitive grants to school districts to develop supplementary programs for grades 7-12. Programs implemented under these grants include: remedial and tutorial programs, counseling programs, work-study and cooperative programs, and programs for pregnant teenagers and teenagers who are parents.

In 1984, the New York State legislature adopted the Attendance Improvement/Dropout Prevention (AI/DP) Program. Under this program, school districts falling in the bottom 10 percent in school attendance rates in the State are required to submit a plan to address absenteeism, which includes methods of identifying at-risk youth and specific actions to increase attendance and retention rates. In 1985-86, the law and regulations were changed to require school districts to allocate funds for programs at specific schools.

In North Carolina, the State legislature established a dropout prevention fund as part of its Basic Education Program, awarding $15 million to 141 school districts during the 1985-86 school year. In addition, North Carolina's In-School Suspension program is designed for students to develop the self-discipline required to participate in academic programs.

Washington State's Educational Clinics Program provides short-term instruction to 13- to 19-year-old students who have dropped out or have been expelled from school for at least a month. These clinics diagnose each student's educational abilities and provide individualized, short-term instruction to improve basic skills and motivation. Employment information is also made available to these students.

Wisconsin's Act 29 of 1985, defines "at-risk youth" and requires every school board to identify at-risk children in its district each year and develop a plan of programs to meet the needs of youth. Arkansas and Tennessee policymakers have implemented statewide programs for the early identification of basic skill deficiencies before they contribute to a student's dropping out of school. In Arkansas, students are tested in 3rd, 6th, and 8th grades. They must pass the basic skills test in the 8th grade before proceeding to high school. In Tennessee, alternative learning centers have been established to redirect youth with behavioral or instructional problems.

Illiteracy

In response to illiteracy problems, State officials have formulated policies to foster cooperation among State agencies, the private sector, and volunteers. Most importantly, they have emphasized the need to follow through with education reforms. In recent years, task forces and coalitions have been established in many States to develop public awareness and outreach programs for adults and innovative basic skills programs for at-risk students.

In South Carolina, the Governor's Remediation Initiative provides students in grades 9-12 who need extra instruction with an individualized, diagnostic, prescriptive, self-paced program to build their mathematics and reading skills. Through a grant program established in 1985-86, schools which fit the identified criteria were asked to apply for funds and establish math and reading laboratories. Currently, there are 106 computer-enhanced math laboratories and 60 reading labs in 99 high schools.

Officials in nearly all States have addressed the issue of illiteracy either by increasing the number of academic courses required for high

school graduation or by establishing basic skill tests. The most common phenomenon has been added requirements for coursework in mathematics, science, and foreign languages. In Iowa, Massachusetts, Michigan, and Wyoming, social studies and physical education requirements have also been raised. Indiana's A+ Program for Educational Excellence assesses progress for each student in grades 1, 2, 3, 6, 8, 9, and 11, based on standard proficiencies; those with test scores below minimum standards are required to take a remediation program the following summer.

In summary, State policymakers deal with illiteracy as much at the primary and secondary levels as at the adult stage. Strategies that attempt to break the intergenerational nature of illiteracy and reduce the number of dropouts seem to have positive results. With that in mind, the State governors have made a series of far-reaching recommendations in a recently released report *Time for Results: The Governors' 1991 Report on Education* (NGA, 1987). These proposals emphasize early childhood development programs as good investments for improving student achievement.

Economic Development

Economic development at the State level has also given a new impetus to education reform. The role of education in preparing people to meet the needs of business and industry has received attention from State policymakers. Consequently, there has been a significant increase in the number of school/business partnerships for the design and operation of career preparation programs.

In a large number of States, Federal funds under the Job Training Partnership Act (JTPA) support work programs. In Atlanta, Georgia, a department store chain has placed a classroom inside one of its buildings so that students can attend classes part of the day and work the rest of the day. Variations of this work-study model can be found in Pennsylvania, Massachusetts, New York, Florida, and Arizona, among many other places. About 150 school systems in 27 States now operate Experience Based Career Education (EBCE) programs which expose students in school to workplace concerns. They also sponsor a large number of innovative, collaborative programs for 16- to 21-year-old dropout students. In addition to the EBCE career oriented programs, State and local resources ($110 million across the Nation) have been used to establish statewide youth service and conservation camp programs.

Issues, Policies, and Programs at the Federal Level

The 1980 election shifted the focus from the equity concerns of the Carter administration to those of economic recovery and education quality. The early years of the Reagan administration focused on declining national student aptitude and achievement test scores, increased drug problems in the schools, and adult illiteracy. More importantly, the administration redefined the role of Federal policy from a broad response to social issues to one specifically targeted at the disadvantaged. Additionally, the Reagan administration stressed an increased role for private business, industry, and organizations in the solution of social problems.

The issues that have caught the attention of State policymakers have also been the focus of Federal initiatives. In addition, Federal policies and programs have been targeted at special populations such as economically disadvantaged youth.

At-Risk Youth

The issues of concern at the Federal level are how to generate the skills and motivation necessary for success in education beyond high school and how to overcome the financial pressures of continuing high school and progressing to postsecondary education. Many approaches and programs conducted by several Federal agencies are designed to prevent students from dropping out and to facilitate their further education.

Generating Skills and Motivation

The Department of Education, through the Office of the Assistant Secretary for Postsecondary Education, carries out two major youth programs dealing with this issue: Talent Search and Upward Bound.

The Talent Search program identifies youth and young adults 12-27 years old who are usually high school students and dropouts but who have the potential for participating in postsecondary education. Low-income individuals who are likely first-generation college students are encouraged to complete secondary school and go on to college. The program also publicizes the availability of student financial aid and provides tutorial services for those choosing to take or re-enter educational programs.

The Upward Bound program generates the skills and motivation necessary for success in education beyond high school among low-income youths and potential first-generation college students between 13 and 19 years old. The goal of the program is to increase the academic performance of the participants so that they can complete high school and postsecondary educational programs. Project grants are provided to institutions of higher education, public and

private agencies and organizations, and secondary schools to provide academic programs (including Saturday classes), personal and academic counseling, career guidance, tutoring, and exposure to cultural events and academic programs not usually available to disadvantaged youths. Funds also support residential summer and school-year programs and stipends for students.

Overcoming Financial Pressures

Under the Civil Service Reform Act of 1978, the Office of Personnel Management has three programs to help youth overcome the financial pressures of continued education.

The Stay-in-School program is designed to give economically disadvantaged youth 16 years old and older part-time employment in Federal agencies to allow them to continue their education without interruption caused by financial pressures.

The Summer Aids program is another program for those 16 years old and older to work in the private or public sector and earn money to return to school.

High school and college students with special skills can participate in the Summer Jobs in Federal Agencies program. The jobs may be clerical, administrative, or subprofessional, in the crafts or trades, in areas related to the students' career interests.

Postsecondary Financial Aid

Of the estimated $240 billion spent on education in the United States during the 1985-86 academic year, more than $11.8 billion was spent on Federal financial assistance targeted at those needing help to afford the cost of higher education (United States Department of Education, 1984). Many aid programs are grants—scholarships that do not have to be repaid—while others are loans that must be repaid when a student leaves school, or work-study programs that enable a student to earn money while attending college.

The United States Department of Education administers five major student financial aid programs:

1) Pell Grants are awards to college and university undergraduates. For many students, they provide a "foundation" of financial aid to which aid from other Federal and non-Federal sources may be added. Unlike loans, grants do not have to be paid back.

2) Supplemental Educational Opportunity Grants are also awards to help pay for undergraduate education.

3) The College Work-Study program provides jobs, both on campus and off campus with private nonprofit or public organizations, for undergraduate and graduate students who need financial aid.

4) National Direct Student Loans (NDSLs) are low-interest (5 percent) loans made through a school's financial aid office to undergraduate and graduate students. These loans are based on need, the availability of NDSL funds at the institution, and the amount of other aid the students are receiving.

5) Guaranteed Student Loans (GSLs)/PLUS Loans are low-interest loans made by a lender such as a bank, credit union, or savings and loan association to help students pay for postsecondary education. These loans are insured by a guarantee agen-

cy in each State and reinsured by the Federal Government. Banks and other lenders take part voluntarily in the GSL program and lend their own money. PLUS loans (Parent Loans for Undergraduate Students) provide additional funds for educational expenses. The interest rate for these loans is currently 12 percent, and, as GSLs, they are made by banks and other lenders.

Illiteracy

In April 1983, the United States Department of Education's National Commission on Excellence in Education released its report *A Nation at Risk* which concluded that "the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people"(National Commission, 1983, p. 5).[2] These strong words gave new impetus to education reform. Concerns about declining national student aptitude and achievement test scores, increasing numbers of high school graduates who were functionally illiterate, and growing illiteracy galvanized parents, teachers, administrators, local school boards, State education agencies, private corporations and foundations, and citizens into making an extraordinary response. The Federal Government also played an active role in spurring education reform and the campaign against illiteracy.

On September 7, 1983, President Reagan established the Adult Literacy Initiative to address the Nation's illiteracy problem. As a part of that effort, the Federal Interagency Committee on Education identified 79 Federal programs, administered by over 14 Federal agencies, that support literacy activities either directly or indirectly. In FY 1985, $347.6 million was obligated for literacy programs, however, only $126.5 million was actually spent (Education and Labor Committee, 1987). Ninety-eight percent of the $126.5 million was for programs obligated in FY 1985 in the Departments of Education, Health and Human Services, and Defense (Kahn, 1986, pp. 19-21).

Special programs have been designed for the elderly, native Americans, refugees, Federal prisoners, high school dropouts, the handicapped, the unemployed, and the non-English speaking. Many programs focus on helping people gain the skills necessary to get a job or live independently.

The most important source of Federal support for programs used by 16- to 19-year-olds is the 8 percent set-aside, with State matching funds required, for education under the Job Training Partnership Act. These funds are given to the States, which have great leeway in deciding how they will be used and distributed. JTPA emphasizes the need to combat illiteracy by requiring that the funds be used to: enhance the basic educational skills of youth; encourage school completion; provide eligible youth with exposure to the "world of work;" improve academic performance, including mathematics and reading comprehension; and improve employability skills.

Economic Development

If the United States is to be "an effective international competitor, then innovation, vitality, and effective training of the workforce are key ingredients" (Eurich, 1985, p. 3). As the workforce of tomorrow, those 16- to 19-year-olds in transition from school to the world of work, are critical and so is their education and training in this age of technology and information.

Current Federal policy is directed toward assisting disadvantaged youth and involving the private sector of the economy in developing permanent employment opportunities rather

than "makework" jobs. The major Federal programs preparing youth for employment are administered by several agencies including the Departments of Agriculture, Labor, and Education.

One youth program in the Department of Agriculture addressing this issue is the 4-H program which sponsors education and youth development projects through the extension services of State land-grant colleges and universities. 4-H clubs provide youth with opportunities for educational, social, and personal development through participation in various projects addressing common farm, home, and community problems ranging from animal husbandry to city planning.

The Department of Labor's Employment and Training Administration, acting under the authorization of the National Apprenticeship Act of 1937, as amended, administers several programs directed at youth: apprenticeship, the Federal-State Employment Service, and programs under the Job Training Partnership Act. It registers apprentices and apprenticeship training programs for individuals at least 16 years old. It also stimulates and assists industry in the development of apprenticeship and training programs designed to provide skills required by the economy in those occupations commonly known as skilled crafts or trades. In addition, the Employment and Training Administration introduces apprenticeship training into new industries and occupations.

The Federal-State Employment Service, under the Wagner- Peyser Act of 1933 and the Social Security Act of 1935, is a national network of public employment offices providing job placement services. It also provides special services, including counseling and assistance in overcoming barriers to employment unrelated to job performance, such as lack of transportation and child care, to youth and minority job seekers. The Summer Employment program for youth is also part of this effort.

The Job Training Partnership Act of 1982 was enacted to provide training and related assistance to economically disadvantaged individuals and others who face significant employment barriers. As stated in Section 2 of the law, the purpose of JTPA is to "establish programs to prepare youth and unskilled adults for entry into the labor force." The ultimate goal of the Act is to move trainees into permanent, self-sustaining employment.

A central feature of the act is the partnership between government and the private sector. Money (in the form of formula grants) comes from the Federal government while administration and operation of the training projects is carried out by the private sector, with joint policymaking at the local level to meet the real manpower needs of the local economy. JTPA funds flow through local private industry councils (PICs) that are made up of representatives from the private and public sectors and that decide how most of the JTPA dollars coming into a State will be spent.

Another significant feature of the act is that, for the first time, monetary incentives are provided for States to bring their education and job training policies into agreement. JTPA makes available approximately $3 billion for job training programs, and Section 203(b) targets not less than 40 percent of the available Title IIA funds (the core training dollars) on youth.[3] It also allows public secondary and postsecondary education systems to be the major recipients of these funds (Riffel, n.d.).

Title II of the act (Training Services for the Disadvantaged) authorizes and sets out requirements for adult and youth training programs to be administered by the States. They are to be planned and carried out through a partnership of the private sector and government at the State

and local levels. Title II also includes a separate authorization for the Summer Youth program.

The Department of Education's major programs in the area of training young people for work are authorized by the Carl D. Perkins Vocational Education Act of 1984. The purpose of the Perkins Act's basic grants to States (Title II, Parts A and B) is to help States expand and improve vocational education programs and ensure equal opportunity in vocational education to traditionally underserved populations. Twenty-two percent of the funds under Part A, Vocational Education Opportunities, is to be allocated for disadvantaged students and 10 percent for handicapped students. Funds under Part B, Improvement, may be used for any of 24 specified purposes, including new or expanded programs, career counseling and guidance, acquisition of equipment, renovation of facilities, and staff development.

Programs authorized by the Adult Education Act work in concert with the vocational education programs and the Job Training Partnership Act. The Adult Education Act provides block grants to the States to be given to local education agencies or other nonprofit agencies (public or private). The purpose of the act is to expand educational opportunities for adults and encourage the establishment of programs of adult education that will enable all adults to acquire the literacy and other basic skills necessary to function in society, to complete secondary school, and to profit from employment-related training.

Participation in the adult education program is open to those 16 years of age or older or those who are beyond the age of compulsory school attendance and are not high school graduates. Although exact figures for 16- to 19-year-olds are not available, it is known that approximately 80 percent of the participants are between 16 and 44 years old.

Summary

All of the programs reviewed here have the ultimate goal of developing the ability of citizens to function effectively as adults in an increasingly complex world. Effective citizenship requires literacy and the skills and attitudes necessary for people to make informed choices and lead productive lives. State and local programs together with Federal programs and incentives are designed to achieve those goals.

The foregoing analysis of State and Federal policies and programs reveals a great diversity of approaches and a commingling of roles in the development of education and training programs. It also suggests several major trends: the developing focus on assistance to the disadvantaged, the expansion of educational opportunity for all income groups, the grow-

ing role of the private sector, and the fusion of education and training approaches.

NOTES

1. A student "at-risk" can be defined as a person who is likely to confront the problems associated with drug abuse, unwanted pregnancy, suicide, dropping out of school or chronically low academic performance. However, States define "at-risk" mostly by focusing on students who are at risk of dropping out of school. This is evidenced by the conference of the National Forum for Youth At Risk, sponsored by the Education Commission of the States and the Interstate Migrant Education Council, which defines the challenge for the States as: to make all youths in the United States free from the risk of not completing their secondary education.

2. The National Assessment of Educational Progress's recent study of literacy among 21- to 25-year-olds indicates that this age group has difficulty operating at the increasingly higher literacy rate required by a more sophisticated (technical) environment.

3. Except where the ratio of economically disadvantaged youth to adults differs from the national ratio, the amount is reduced or increased proportionately.

Review of Research Evidence on Special Topics

A large body of research is available from many different sources on many aspects of postcompulsory education available to adolescents. Much of the research simply serves to bring up new questions or to focus on existing ones. Other research is hampered by lack of appropriate data, though the quality of the datasets has improved substantially over time.

In this section, only three topics are considered, either because they represent important developments in the organization or content of postcompulsory education in the United States or because the research evidence may have important implications for policy.[1] The topics are: the movement to emphasize a core curriculum of academic subjects in high school; the high school dropout problem; and the part-time work behavior of high school students.

The High School Curriculum

In 1983 the National Commission on Excellence in Education advocated in its report *A Nation At Risk* that high schools increase emphasis on a core curriculum of academic subjects. In particular, the report recommended that "at a minimum, all students seeking a diploma be required to lay the foundations in the Five New Basics by taking the following curriculum during their 4 years in high school: 4 years of English, 3 years of mathematics, 3 years of

science, 3 years of social studies, and one-half year of computer science." For the college-bound, "2 years of foreign language in high school" was also recommended strongly. These recommendations were based on the finding that "secondary school curricula have been homogenized, diluted, and diffused," and that "students have migrated from vocational and college preparatory programs to 'general track' courses in large numbers."

In response to this recommendation, some State and local public school districts have increased their requirements for high school graduation by increasing the number of credits required in basic academic courses. As indicated in table 5, the average number of credits required for graduation has increased from 19.7 in 1981-82 to 21 in 1987-88. Among the basic courses, mathematics and science requirements were increased more than those for other subjects.

In 1980, fewer than 20 percent of all students met all requirements suggested by the National Commission on Excellence in Education. Only 49.7 percent of students met the mathematics requirement, and only 36.2 percent met the science requirement (see table 6). As expected, academic-track students were more likely to meet the suggested requirements.

Trends in the Course-Taking Behavior of High School Students

According to an analysis of high school students' transcripts, from 1964 to 1981 enrollment in traditional mathematics and science courses dropped sharply as more students pursued the general-track curriculum (Adelman, 1983). As the analysis of transcripts indicates, the educational experience of the general-track student is quite different from that of academic- and vocational-track students. Although there is no agreement on what constitutes the general track, students who identified themselves as on this track spent more time in personal service and development courses than on advanced academic courses.

Additional evidence is available from a study that compared the high school classes of 1972 and 1980 (see table 7). Curriculum track can be used as a proxy for the type and rigor of courses students are taking. General-track students are more likely to take remedial courses, personal development courses, and diluted or abbreviated versions of traditional academic courses. In 1980, 37.2 percent of high school seniors identified themselves as on the general curriculum track, whereas in 1972, 31.7 percent did. On the other hand, in 1980, 38 percent of the seniors identified themselves as students pursuing an academic education track, a significant decline from the 46 percent in 1972. Direct measures of the number of courses these high school graduates took are only available for broadly defined subject areas which mix rigorous courses for the college bound with others at the other end of the spectrum. The mean number of courses taken in math actually increased from 3.73 to 4.12 between 1972 and 1980. The number in social studies declined from 5.37 to 4.66, as did those in foreign languages (see table 6).[2]

Another analysis of transcripts for the high school graduating class of 1982 provides a profile of courses for students who pursue different tracks (Rock et al., 1986, p. 164):

> The hypothesized average student in the academic curriculum would have earned a total of 15.55 Carnegie units in the new basics, including 10.66 units in non-remedial English, Algebra I, Geometry I, Advanced Mathematics, Biology I, History, Social Science, and Foreign Language I and II and would

have received a 2.89 grade average. The hypothesized average student in general curriculum would have accumulated 11.98 Carnegie units including 8.55 in non-remedial English, Algebra I, History, and Social Science for a 2.07 grade average.

General-track students are more likely than academic-track students to participate in remedial and generalized courses at lower levels of difficulty.

The Curriculum and Economic Achievement

Bishop (1985) reviewed and synthesized the results of six studies of the criteria employers use in their hiring processes. For both in-school and out-of-school youth, he concludes that knowledge of basic skills (communication and computation skills) is one of the most important criteria used to screen applicants (second only to attitudes and appearance). For in-school youth and out-of-school youth in jobs that require an average amount of preparation, these basic communication and computational skills are important for performing well and retaining one's job. Bishop also found that employers do not use (or are not able to use) high school transcripts to evaluate job applicants (Bishop, 1985). However, based on High School and Beyond data (U.S. Department of Education), he found that high school vocational education had significant, positive impacts on wages and earnings acquired immediately after high school by those who did not attend college.[3]

However, the study also reviewed research literature and found a significant correlation between earnings and performance on basic academic tests (such as Scholastic Aptitude Test-verbal and Scholastic Aptitude Test-math), grade point average, etc. Meanwhile, almost all analyses indicate that students pursuing an academic track have better scores than their nonacademic counterparts.[4] If basic academic courses improve test scores, which are related to earnings, then basic skills could affect the individual's career.[5]

The literature review, which is summarized in table 8, shows negative impacts of test scores on earnings in early labor market experience, when the individual is 19-21 years old. The impacts then become positive during the rest of the individual's career. This indicates that academic achievements are usually not recognized by employers at the beginning. Employers neither test their employees' basic skills nor do they refer to their high school transcripts. However, as these skills begin to contribute to the individual's work, their earnings go up. In fact, as surveys indicate, the contribution of basic skills to productivity is mostly indirect. They help the individual to acquire job-specific skills quickly and adapt easily to new jobs. If this is true, then the findings that students are taking more basic skill courses, while preferring general and vocational education, are not contradictory. They simply reflect the fact that students need more flexible and general skills, i.e., basic skills, to survive in a dynamic world where work content is changing rapidly in response to changes in high technology.

High School Dropouts

Fifty years ago, a high school diploma was a symbol of high educational achievement, but it is now considered by many as the minimum credential required for participation in American society and the labor market. Failure to finish high school has serious consequences for an individual's access to reasonable wages and steady work. Today, 12 years of formal schooling is considered the norm. Among 25- to 29-year-olds in 1980, 97.3 percent finished 8th grade, 85.6 percent finished high school or its equivalent, 37.4 percent finished 2 years of college, 23.1 percent finished 4 years of college, and 7.8 percent went on to graduate school. Only 44 percent of high school graduates in this birth cohort had gone on to college by their late twenties.

The rate of high school completion has been increasing throughout the 20th century but it took its largest jump among those who were teenagers during the Depression. Among 65- to 69- year-olds in 1980, who would have been starting high school near or before the beginning of the Depression, the proportion with 12 or more years of school was 46.1 percent. Among 60- to 64- and 55- to 59-year-olds, the high school completion rate jumped to 55.5 and 63.7 percent, respectively. Among post-World War II teenagers, it continued to grow at just a little under a percent per year until the mid-1960s when it reached 83.8 percent (U.S. Department of Commerce, 1980). It has edged up only slightly since then. Likewise, college attendance rates rose steadily throughout the post-World War II period, but grew most quickly during the 1960s, peaked in 1970, fell until 1974, rebounded, and then remained more or less steady.

The rapid expansion in the educational attainment of new cohorts has stopped. On the other hand, the technological sophistication of skills required in the workplace continues to grow. Increasing competition among businesses in the United States resulting from deregulation and from businesses abroad is likely to benefit the United States consumer, but it puts new demands on United States businesses and their employees. To be competitive, firms must be able to respond more quickly to the changing demands of consumers. They must be able to introduce cost-saving and quality-enhancing technology more quickly.

Part of the response of both students and the education system to changing conditions in the marketplace is apparent in the changing distribution of major fields of study among new baccalaureates awarded and elective courses students choose to take outside their major field.[6] Another part of the response, for which less systematic evidence is available, is that more training is produced closer to the source of its use—the workplace. However, independent of the type and provider of education or the training produced, evidence suggests that workers with more education and training perform better in the current economic environment. As increasing competition in the marketplace induces firms to respond more quickly to changes in consumer demand and technology and to specialize their products and services for particular groups of consumers (Bailey and Noyelle, 1986), the liability of too

little education (not finishing high school) is likely to increase.

The term "high school dropout" is commonly used to refer to those who do not finish high school. It is by no means a permanent condition. That is, young people who leave school early can change their minds and either go back to school ("stopouts") or take an alternative route to finishing their high school education, such as passing the General Educational Development exam. Students with the characteristics that predict dropout behavior are the "at-risk population."

Why do young people drop out of high school? The single most important statistical predictor of dropout behavior is poor academic performance in school. This cannot be interpreted to mean that students drop out only because they are unable to do well in school. Neither does it imply that making the high school curriculum more challenging will increase the proportion who drop out.[7] Dropping out of high school and poor academic performance are likely symptoms of more basic problems.[8] The empirical research has not established what those problems may be.[9]

What are the consequences of dropping out of high school? High school dropouts do not fare well in the labor market relative to high school graduates. They are more likely to be without work. When working, they earn less: Males with 1-3 years of high school earn about 25 percent less than their counterparts with 4 years of high school.

How Many Drop Out?

How many young people are high school dropouts is not an easy question to answer. Not everyone attends school continuously. Some leave school but return later. Not everyone who attends school continuously graduates at the same age. Some are held back and repeat grade levels. Others start late. The proportions of 18-, 19-, and 20-year-olds who had completed high school as of March 1979, were 45.8, 77.6, and 84.4 percent, respectively. These figures show that many 18-year-olds are still in high school. Also, these figures include people who have finished high school via alternative routes, most notably by passing the General Educational Development tests. Other methods[10] of calculating the dropout rate yield lower completion figures near 75 percent. There is disagreement about which figures are more meaningful or whether 75 percent—or even 80 or 85 percent—is too low a completion rate. In Japan, 93 percent finish secondary school. Many United States educators increasingly tend to use this Japanese standard, believing that the United States can do better despite fundamental demographic and cultural differences. And realizing that, it is generally believed that the nature of work is such that a high school education is the minimum employers will accept for employment.

Given this situation in the United States, there are still some basic questions that need to be answered. Is noncompletion occurring earlier in the high school cycle? And, what is a reasonable national goal for high school students?

How Many Return?

As was emphasized earlier, dropping out of high school is not an irreversible decision. In a sample of high school sophomores in 1980, 14 percent dropped out of school before scheduled graduation in 1982. However, by the spring of 1984, 40 percent of this group had returned to school and had earned their diplomas. Another 10 percent were in school at the time but had not earned their diplomas yet. In California, it is estimated that 40 percent of dropouts im-

mediately enroll in another form of school (Pallas, 1987).[11] Adolescents who leave high school early can also earn a certificate of high school completion by passing the GED tests. In 1980, nearly 700,000 people took the complete battery of GED tests. Half of the test takers were 21 years old or younger. Sixty-nine percent of the test takers passed the exam and received a certificate.

Who Drops Out?

If the 15 percent of young people who currently do not finish high school were equally distributed across demographic groups, it is unlikely there would be as much concern about the dropout problem. But the completion rates are much lower for some minority groups. The proportions of blacks who had finished high school in March of 1979 were 35.7, 57.4, 72.7, and 75.8 percent for 18-, 19-, 20-, and 21-year-olds. Young black people also take longer to finish high school. For those of Hispanic origin, the figures are 33.9, 63.0, 63.3, and 58.6 percent for 18- to 21-year-olds. Hispanics are less likely to finish high school than blacks but the trend is strongly upward. Borus and Carpenter (1984) demonstrate that after accounting for the educational background of parents, family income, and other background and student characteristic variables, young black people are less likely and Hispanics no more likely to drop out of high school than their white counterparts.

Characteristics Associated with Dropping Out

As previously mentioned, the best predictor of dropping out is poor academic performance (Pallas, 1987). For example, Borus and Carpenter (1984) find the one-year dropout rate[12] for those performing 2 or more years behind modal grade was 16.8 percent as opposed to 4 percent for those who were not. Dropout rates are lower for those in college preparatory (1.7 percent) than in general curricula (6.5 percent) (Borus and Carpenter, 1984).[13] For women, the second best predictor of dropping out is pregnancy (Pallas, 1987). Married students or those planning to be married are more likely to drop out than those who are not (Borus and Carpenter, 1984). Students who hold full-time jobs are more likely to drop out (D'Amico, 1984). In Malizio and Whitney's study, among those who dropped out and took the GED tests, 5.4 percent did so because high school was not challenging (Malizio and Whitney, 1981).

The characteristics of those who return to high school are consistent with those of dropouts. Older students are less likely to return to school. Those who expect to attend college and those who have never been married are more likely to return. Among those who took the GED tests in 1980, 35.3 percent did so to fulfill a future job requirement, 29.1 percent did so to fulfill an educational admissions requirement, and 24.9 percent did so for personal satisfaction.

Wehlage and Rutter (1986) find that dropouts are less distinguishable from noncollege-bound high school graduates than the latter are from college-bound graduates. The primary distinguishing characteristic is delinquent behavior—a symptom of conflict. They argue that dropping out results from the interaction of certain institutional characteristics of the school and background characteristics of the student. They find that "for most students the picture of high school that emerges is a place where teachers are not particularly interested in students and the discipline system is perceived as neither effective nor fair" (Wehlage and Rutter, 1986, p. 37). The interaction of these institutional characteristics with "a low socioeconomic status background, which may

signify various forms of family stress or instability" (Wehlage and Rutter, 1986, p. 38) leads to conflicts which ultimately lead to dropping out. They report, however, that almost all dropouts indicate they expect to return and finish high school.

Consequences of Not Completing High School

Among teenage boys not enrolled in school in October 1976, the nonemployment[14] rate (or the rate for those without jobs, including the unemployed and those out of the labor force) was 42.1 percent for those with fewer than 12 years of school compared to 20.8 percent for those with 12 years (Feldstein and Ellwood, 1982). Youth can be an unsettling time, characterized by experimentation and learning about one's interests through trial and error. This condition can result in a "high turnover lifestyle"—going from one job to another, going from student to worker status, and so forth. The high nonemployment rate statistics for youth, in part, reflect their high job turnover rate.[15]

For a large number of youths, this is a temporary condition; for others, it is not. For those who do not finish high school, the high rates of nonemployment and job turnover fall with time but remain relatively high. For those with *less* than 12 years of school, the nonemployment rate drops from 42.1 percent for the 16- to 19-year-old age group to 26.4 percent for the 20- to 24-year-old age group. For those with *only* 12 years of schooling it falls less with time, from 20.8 percent for the 16- to 19-year-old age group to 14.7 percent for their older counterparts. Clearly, not finishing high school is associated with a much greater risk of nonemployment. No research has attempted to distinguish whether 1) the high nonemployment rate is a consequence of not finishing high school or 2) both the high nonemployment rate and the act of not finishing high school are both symptoms of some other problem. For instance, these young people may not have developed the ability to adapt to organizational rules. The truth is likely to lie somewhere between these two extremes.

Individuals who do not finish high school earn substantially less than those who do. O'Neill et al. (1986) calculated from 1980 Bureau of the Census data that, among white males 25-34 years old, weekly earnings were 9.3 percent higher for each additional year of schooling through the high school diploma. For black males, the increment was 7 percent per year. Smith and Welch (1978) calculated from the 1974 Current Population Survey data that, among white males just entering the labor market, annual earnings, corrected for the probability of working part time or having zero earnings, were 6.5 percent higher for each additional year of secondary schooling. For those with 10 years in the labor force the increment was 9.5 percent. For black males, the figures were 3.4 percent for those just entering the labor force and 7.8 percent for those who had been in the labor force 10 years. In general, the rate of return to years of postsecondary schooling was larger, particularly for blacks.

In summary, since the mid-1960s, the proportion of young people finishing high school or its equivalent has been around 85 percent. However, those who do not complete high school appear to be disproportionately concentrated in families where the parents have little formal schooling, are poor, and live in large cities. The economic rewards for finishing high school are quite large,[16] and recent and foreseeable developments in the U.S. economy suggest that education will be an increasingly important attribute that workers bring to the market. The stagnation of educational attainment at the lower end of the educational distribution would thus lead to problems.

Working High School Students

A large proportion of high school students hold jobs. Policymakers have generally applauded this behavior. The work behavior of high school students appears to be a uniquely American phenomenon. Who are the students who work and what motivates them to do so? What is the nature of their work experience? What are the consequences of their work on performance in school, persistence to graduation, likelihood of continuing with postsecondary education, and outcomes in the labor market? Are the outcomes consistent with the motivation for work? A flurry of recent research has estimated the consequences of working. Some of that research casts doubt on the value of student work.

It is also the case that a large proportion of full-time college students work part time. The motivations of these students appear to be different, and the consequences are less well studied.[17]

Who Works?

The clearest distinguishing characteristic of students who work is race. White students are much more likely to work than students of other races. For instance, in October of 1985, 34 percent of white males 16-17 enrolled in school also worked. Only 13 percent of their black counterparts did (U.S. Department of Labor, 1986).[18] The source of the difference is uncertain. Black, Hispanic and other minority students live in areas where job opportunities for teenagers are scarce. In a large, random sample of high school graduates, Meyer and Wise (1982) found that income of the parents is positively, but weakly, associated with hours worked per week in high school, while achievement test scores are negatively, but weakly, related to hours worked.

It is difficult to interpret the relationship between work and achievement in school correctly. At least two effects are operating. These might be labeled 1) allocation of time and 2) comparative advantage or selectivity. The allocation-of-time effect refers to the fact that students who choose to work must take time and energy away from school and study; consequently, their achievement may suffer. The comparative-advantage effect is that, holding constant the allocation of time and energy to study, not all students may do equally well. The same is true for work. Students will understandably choose to spend more time in the activity at which they are comparatively more able. In this way, students self-select their relative commitments of time and energy to school and work. Of course, students may have an absolute advantage at both school and work. For instance, some students may be harder working than others. These students may earn and learn more when they work and achieve and learn more when they are in school. No research has untangled these effects. Therefore, we do not know the magnitude of the effect of working on school achievement.

What Are the Consequences of Working?

The recent increase in demand for teenage workers has decreased the allocation of their time and energy to school. Also, the nature of the jobs youths hold has changed dramatically over the years. Today's high school students work primarily in the services and retail trade. In 1980, the most common job held by sophomores was babysitting (26.3 percent), followed by food service (12.2 percent), manual labor (7.4 percent), and store clerk (7.2 percent). In the same year, the most common job held by seniors was store clerk (21.5 percent), followed by food service (16.8 percent), and clerical work (9.9 percent) (Lewin-Epstein, 1981). Students' earnings are most often used to finance a car, pay for clothes and gifts, or make other major purchases (stereo, ski trips, etc.). It is *not* typical for their earnings to be saved for the purpose of financing college or to be given to their parents to help pay for necessities (McNeil, 1984).

Future Employment

Meyer and Wise (1982) find that the hours worked per week by high school students is strongly related to the number of weeks they work per year after graduation.[19] Although this relationship weakens somewhat for each year after graduation, even 4 years after graduation it remains strong. Meyer and Wise conclude that "working in high school may be an indication of personal characteristics not gained through work, but leading to work in high school as well as greater labor force participation following graduation" (Meyer and Wise, 1982, p. 306). The authors go on to say that this interpretation does not rule out the possibility that work experience in high school would have resulted in increased employment after high school for those who did not work.

Future Wages

Meyer and Wise (1982) also find a relationship between hours worked in high school and wage rates earned after graduation. This effect is not as strong as it is for weeks worked, and it falls more quickly with years out of high school. As usual, several interpretations are possible.

Clearly, students who work must reduce the time they spend on other activities, and this will have consequences. D'Amico (1984) finds that for most race/sex groups, intensive work in high school (measured by the proportion of weeks the student works 20 or more hours) is associated with decreased study time and free time at high school. However, he does not find an effect of intensive work on the student's class rank. He does find that intensive work increases the likelihood students will drop out or interrupt their progress toward a diploma. Interestingly, moderate work (measured by proportion of weeks the student works 20 hours or less) reduces the probability that a student will drop out.

Greenberger and Steinberg (1986) review their own earlier work and the work of many others related to the consequences of adolescent employment. They examine the development of social and personal responsibility, achievement in school (including the allocation of time to school and study), crime and delinquency, health and well-being (including drug use and abuse), and future employment prospects. The overall picture they paint is one in which teenage work has costs (often ignored or overlooked) that may not justify the (often overstated) benefits.

The clearest result of working relates to the development of responsibility by teenagers.

The money earned by working yields increased financial autonomy. But Greenberger and Steinberg (1986) caution that, "whether autonomy should be equated with responsibility is another matter" (Greenberger and Steinberg, 1986, p. 105). They conclude that "in general, working, along with managing the money that accrues from working, provides adolescents some opportunity to exercise more responsibility. But adolescents who work are more likely to learn or practice personal responsibility than to learn interdependence, or experience a high level of cooperation and interdependence—the more 'social' aspects of responsibility" (Greenberger and Steinberg, 1986, p. 103).

From the little systematic description of what teenagers do on the job, it appears that there is very little chance to apply mathematics or to practice reading. Little instruction from adults or learning transpires. This does not rule out the possibility that student workers are learning on the job, but it is not apparent from observing them while they work that they are learning or using basic skills. A danger exists that students learn less from work than from school and that the time taken from school and study to work is time that could be better spent on schoolwork.

The Decision to Work (Self-Selection) and the Effect of Work on School Achievement

Instead of trying to observe the process of learning while working, which is difficult, it may be better to measure the outcome. How does the school achievement of students who work compare to that of those who do not? Based on known family and personal characteristics, students who work are not very different from those who do not (except for race). Based on their behavior, the evidence is that they are different. For instance, one study shows that students who worked in 10th, 11th, and 12th grades had lower grades in 9th grade than those who did not.[20] To separate the effect of working on grades from the students with less academic ability or commitment to schooling, it is better to measure the effect of work on the *change* in an achievement measure.[21] Greenberger and Steinberg (1986, p. 119) summarize their review of the evidence:

> To sum up: while there is little evidence to suggest that students who do less well in school are more likely to become workers during high school years, there is indirect evidence that they work longer hours than other youngsters. There is also some evidence to suggest that grade-point average [GPA] is depressed by intensive levels of labor-force participation, especially among youth who begin work early in the high school years. Although the relationship between working and GPA does not always attain statistical significance, it is consistently negative. In no studies has working been shown to have a positive effect on GPA.

In a study of juniors and seniors in four midwestern high schools, McNeil found evidence that the student's part-time employment may be "causing both students and teachers to disengage from the teaching-learning process" (McNeil, 1984, p. 1). She found that

> ...teachers resented students' priorities of time, energy, and effort when they were directed at jobs to the detriment of school performance. The teachers said, in many cases, that their own shift to having the required reading done in class, to having brief-answer tests and exercises, and to centering course les-

> sons on teacher-supplied information rather than on student participation all resulted from their low expectations that students would finish work, do quality work, and complete work on time (McNeil, 1984, p. 36).

Work Intensity and School Achievement

If students who work do more poorly in school because they spend less time studying, then it should be the case that students who work more hours per week or more weeks per school year should achieve less. The results of time-allocation analyses are mixed. In a study of Orange County (California) high school students, Greenberger and Steinberg (1986) found that 10th graders who worked more than 15 hours per week and 11th graders who worked more than 20 hours per week had significantly lower grades for the school year than those who worked fewer hours. Mortimer and Finch found that among boys who began working in 10th grade, those who accumulated more extensive work experience had lower grades in their last year of high school than those who accumulated less work experience. [22] Also, the grades of students who began work in 10th grade showed a decline; those who started later did not. D'Amico (1984) did not find any relationship between work intensity—measured as the proportion of weeks in the school year with 20 or more hours of work—and class rank.

Working and the Investment of Time in Education

Possibly, more important than the effect of working on school achievement is the effect of working on the amount of investment of time and effort students make in schooling. Reduced investment in schooling may be the cause of poorer school achievement among students who work extensively. Using time spent on homework as an index of amount of investment in schooling, Greenberger and Steinberg (1986, p. 122) summarize the evidence:

> [T]he effects of jobwork on homework parallel those for GPA. When effects are demonstrated—they are not large. However, the effect of jobwork, or any other potentially interfering activity, on homework is *bound* to be limited by the low apparent "demand" for out-of-classroom preparation: the average high school student spends less than an hour per day on homework. Also, as in the case of GPA, the relations between jobwork and homework are consistently negative across studies.

D'Amico (1984) found that students who work intensively at a job spend less time studying and participating in free-time activities at school. However, those who work moderately spend more time than either those who do not work at all or those who work intensively.

NOTES

1. The National Commission on Excellence in Education (1983) has advocated a strong core academic curriculum in high school. The National Foundation for the Improvement of Education (1986) and the Institute for Educational Leadership (Hahn and Danzberger, 1987), among others, have advocated strengthening programs for dropout prevention. Several commissions have argued for the benefits of youth work (National Commission on Youth, 1980; National Panel on High Schools and Adolescent Education, 1976; President's Science Advisory Committee,

1973; Carnegie Commission, 1980). However, recent research has brought this view into question (Greenberger and Steinberg, 1986).

2. A comparison of the course offerings and enrollments of public high schools in 1972-73 with those in 1981-82 gives a very different picture of what was happening over this period. Measured as a percentage of total public secondary school enrollment, the enrollment in mathematics rose from 55 percent to 78 percent over the period. In the natural sciences, it rose from 51 percent to 65 percent. Meanwhile, some developmental and skill-specific courses, such as music, industrial arts, and driver's education, experienced decline in enrollments.

3. "The 30 percent of noncollege-bound students who took one or fewer vocational courses received wage rates that were 7.5 percent lower, worked about 19 percent less and earned 32 percent about ($2,000) less than students who took four vocational courses in their last 3 years in high school." See Bishop (1985), p. 37.

4. West et al. 1985b, Fetters et al. 1984, Rock et al. 1986, Alexander and Pallas, 1984. There is evidence indicating that students enrolled in academic programs also have better academic competency and educational experience that pre-date high school (Alexander and Cooke, 1982). Thus, this means the relations between test scores and curriculum can be confirmed only if these "pre-high school" factors are controlled. Alexander and Pallas (1984), nevertheless, controlled these factors and showed a positive impact of academic courses on test performance.

5. The question of the relative payoffs of academic and occupational skills in the labor market is important. The correlations of achievement test scores with earnings are evidence that academic skills have a payoff.

6. The share of B.A.s awarded in business and management increased from 13.9 percent in 1973-74 to 23.8 percent in 1984-85. In education the share decreased from 19.6 percent to 9 percent during the same period. Computer and information science degrees increased from 0.5 percent to 4 percent. In psychology and social sciences the share fell from 21.4 percent to 13.4 percent. Among computer science majors the number of credits completed in business courses rose from 6.6 for the 1972 freshman class to 11.8 for the 1980 freshman class. Among business majors, the number of credits completed in computer science rose from 2.3 to 4.5. See tables 154 and 191 of the *Digest of Education Statistics*, 1987 edition.

7. For an analysis and warning that it may, see McDill, Natriello, and Pallas (1986).

8. "Dropping out is thus a *symptom*—a dramatic indicator of more basic problems and limitations that leave an individual ill-suited to the typical high school environment." See Bachman, Green, and Wirtanen (1971), p. iii.

9. By focusing on student characteristics, which are difficult to change, as statistical predictors of dropout behavior, most of the empirical research has created a trap for readers that often forces them to conclude that schools cannot do anything to reduce the dropout rate. However, characteristics of schools undoubtedly *interact* with student characteristics to induce dropout behavior. If the student characteristics are immutable and the cost to society of dropouts is high, then the school characteristics warrant change. And, in fact, recent research suggests that schools' characteristics and structures can make a difference, especially in dealing with dropouts.

10. One common method is to take the ratio of the number of high school graduates to the enrollment of 9th graders 4 years earlier.

11. In many States, including California, a high school diploma is not a prerequisite for attending a community college.

12. To be precise, this is the number of young people 14-24 years old in the spring of 1979 who had left school without finishing the 12th grade by the spring of 1980 expressed as a fraction of the total number of young people in this age group enrolled below the college level.

13. The dropout rate among those who could not specify their curriculum track was 19.4 percent. See Borus and Carpenter (1984).

14. The *non*employed are those without jobs. The *un*employed are those without jobs who also indicate that they have actively sought employment in the past 4 weeks. Alternatively, the nonemployed includes both those who are "unemployed" and those who are "out of the labor force," where the two statuses are distinguished by whether the individual indicates that he or she has actively sought work in the past 4 weeks. Clark and Summers (1982) and Ellwood (1982) have argued that the distinction between the two states is not meaningful. Flinn and Heckman (1983) formally test the hypothesis and reject it.

15. The nonemployment rate statistics indicate the proportion of youths with jobs at a point in time (usually the last week). Young people do not hold single jobs for extended periods of time. A substantial proportion hold two or more jobs over a 1-year period. For instance, among 1980 high school seniors enrolled in college during the 1980-81 academic year, about 11 percent held two or more jobs during the summer of 1980 in contrast to about 45 percent who held only one job. During the 1980-81 academic year about 16 percent held two jobs and 6 percent three or more jobs in contrast to about 42 percent who held only one. If there are periods of nonemployment between jobs, the nonemployment rate for a particular week of the year will be higher than the nonemployment rate for the entire year. In contrast to that for youth, the nonemployment rate for adults for a particular week is not very much higher than the rate for the entire year, because job turnover for adults is much lower.

16. They are large relative to real rates of return on other investments—physical capital and financial assets—which have been on the order of 2 to 10 percent, depending on the riskiness of the investment.

17. See, for example, Gee (1984) and Ehrenberg and Sherman (1987).

18. Employment rates for students are sensitive to business cycles. In October 1978, 43 percent of white males 16-17 years old and in high school worked, and 18 percent of their minority counterparts did. See U.S. Department of Labor (1986).

19. These statistics were calculated for those out of school, but corrected for sample selectivity and upper limit truncation of weeks worked at 52. The purpose of the "corrections" is to produce the statistic one would calculate if one had a hypothetical random sample in which everyone went to work full time after graduating from high school and was not constrained on the number of weeks he/she could work. See Meyer and Wise (1982), pp. 291-296, for the description of the procedure used.

20. Greenberger and Steinberg (1986) citing Mortimer and Finch (in press), p. 116.

21. Based on a sample of 521 high school students, Greenberger et al. (1986) found no evidence of a selection effect, that is, no evidence that a change in work status from never employed to employed during the school year caused a change in GPA.

22. Greenberger and Steinberg (1986) citing Mortimer and Finch (in press), p. 117.

Conclusion

In the throes of education reform, the United States is struggling to address the issues of quality and excellence in its school systems, while 16- to 19-year-olds continue to perceive education as a viable route to their economic goals.

Diversity and choice in postcompulsory education and training available to 16- to 19-year-olds are unique characteristics of the U.S. system—or "non-system," as some have described it. Also unique is the lack of coordinated standards against which acquired knowledge and skills can be measured.

A number of significant trends point in the direction of change. These trends are both encouraging and discouraging, depending on how they develop and culminate:

- Leaving school prior to graduation is no longer a "terminal" act; the door is open in a variety of ways to anyone who wants to return for further education and training.
- There has been an increase in the number of courses offered by nontraditional institutions, and more of the available courses appear to be career related.
- Combining work and study, either simultaneously or alternately, is becoming more common.
- The private sector, rather than the public sector, has become the dominant provider of training at the postcompulsory level.
- Concern with economic outcomes has become an important factor in the decision-making process of young adults in their choice of further education and training.
- In providing training to young adults, State policies play a more significant role than Federal policies.
- Present economic conditions and the shrinking pool of young adults have contributed to the increased interest of employers in training their entry-level workers.
- The proportion of 18-19-year-olds enrolled in college rose from 51 percent in October of 1977 to 58 percent in October of 1985. The labor force participation rate of those not enrolled in school, that is, of those wishing to work, has stayed the same, but their employment rate has gone down from 67 percent to 62 percent in the same period.

The United States does not have an explicit national policy for developing its human resources to meet the needs of its economy, nor does it provide for a "planned" transition from school to work. Yet, for many students it is a smooth transition. Although, at times, local, State, and national policies assist individuals through specific programs, the education and training system in the United States relies a great deal on the inclinations of young adults. This works well for those who have a strong sense of direction and for those who have adult guidance. It does not work as well for the significant portion of 16- to 19-year-olds who h. neither (Elmore, 1987).

Now, more than ever, the U.S. postcompulsory system requires that people be equipped to make informed choices. It becomes harder to make such choices when the array of policies governing public and private sector institutions and programs makes it almost impossible for the components of the United States system to link up with each other. At the same time, such diversity produces a variety of choices and second chances, which no other society seems to provide for its citizens.

Figure and Tables

Figure.—Components of the U.S. system arrayed by the major types of education and training providers

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School-based programs, including both directly and indirectly supported programs that are either private or public:

- Senior high schools (including academic, general, and vocational tracks; offering both credit and noncredit instruction; and providing classroom-based study, internships or fieldwork, and cooperative education approaches);
- Vocational and technical schools (primarily publicly supported);
- Proprietary schools (for profit);
- Community and 2-year colleges (both public and private);
- 4-year colleges and universities (both public and private) offering credit and noncredit instruction and providing classroom-based study, internships or fieldwork, and cooperative education approaches; and
- Correspondence schools

Work-based programs, including private and government-supported programs (supported both directly and indirectly):

- Unions (including apprenticeship programs in construction and other trades);
- Business and industry (including on-the-job training and formal programs);
- Professional associations;
- Military (including both education and training while in the service; veterans' programs are delivered by other components); and
- Public employee training.

Community-based programs:

- Local organizations;
- Religious groups; and
- Voluntary organizations.

Other programs:

- Government-sponsored manpower programs (Comprehensive Employment and Training Act, Job Training Partnership Act, etc.) and job centers;
- Prison programs; and
- Other governmental and organized training programs.

Table 1.—16- to 19-year-old youth, by enrollment and working status: 1967 and 1985

Enrollment and working status	16–19		16–17		18–19	
	1967	1985	1967	1985	1967	1985
	Number in thousands					
Total	13,410	14,464	7,051	7,260	6,359	7,204
Working	5,365	6,008	—	—	—	—
Not working	8,045	8,456	—	—	—	—
Enrolled, total	9,289	10,370	6,263	6,654	3,026	3,716
Working	2,877	3,602	—	—	—	—
Not working	6,412	6,768	—	—	—	—
High school	6,764	6,768	6,025	6,410	739	809
Working	2,133	2,251	1,835	1,962	281	289
Not Working	4,631	4,968	4,190	4,448	458	520
2- or 4-year college	2,525	3,151	238	244	2,287	2,907
Working	744	1,351	—	—	—	—
Not working	1,781	1,800	—	—	—	—
Not enrolled, total	4,121	4,094	788	606	3,333	3,488
Working	2,488	2,406	350	232	2,098	2,174
Not working	1,633	1,688	438	374	1,235	1,314
	Percentage distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Working	40.0	41.5	—	—	—	—
Not working	60.0	58.5	—	—	—	—
Enrolled, total	69.3	71.7	88.8	91.7	47.6	51.6
Working	21.5	24.9	—	—	—	—
Not working	47.8	46.8	—	—	—	—
High school	50.4	49.9	85.4	88.3	11.6	11.2
Working	15.9	15.6	26.0	27.0	4.4	4.0
Not working	34.5	34.3	59.4	61.3	7.2	7.2
2- or 4-year college	18.8	21.8	3.4	3.4	36.0	40.4
Working	5.5	9.3	—	—	—	—
Not working	13.3	12.5	—	—	—	—
Not enrolled, total	30.7	28.3	11.2	8.3	52.4	48.4
Working	18.6	16.6	5.0	3.2	33.0	30.2
Not working	12.1	11.7	6.2	5.1	19.4	18.2

—Data not available

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, unpublished tabulation from the October 1967 and 1985 Current Population surveys, and *Employment and Training Report of the President* (Washington, DC: Government Printing Office).

Table 2.—Percent of working students enrolled in high schools, vocational–technical schools, and colleges, by age and year after high school

Type of school	Age group[1]						Year after high school[2]							
	16–19		16–17		18–19		1st	2nd	3rd	4th	1st	2nd	3rd	4th
	1967	1985	1967	1985	1967	1985	Class of 1972				Class of 1980			
High school and college	30.9	34.7	—	—	—	—	—	—	—	—	—	—	—	—
High school	31.5	31.2	30.5	30.6	38.0	35.7	—	—	—	—	—	—	—	—
College	29.5	42.9	—	—	—	—	—	—	—	—	—	—	—	—
2-year	—	—	—	—	—	—	57.5	65.6	69.0	75.0	64.3	71.1	74.3	77.3
4-year	—	—	—	—	—	—	29.7	40.0	45.5	52.4	47.7	52.5	55.9	60.2
Vocational-technical school	—	—	—	—	—	—	47.3	58.2	65.0	72.0	52.6	52.9	65.0	62.5

[1]Based on Current Population surveys.
[2]Based on High School and Beyond.
—Data not available.
SOURCE: All calculations for this table are based on data contained in tables 1 and 3 of this report.

Table 3.—A comparison of activities after high school reported by the classes of 1972 and 1980

Activity	Year after high school							
	1st	2nd	3rd	4th	1st	2nd	3rd	4th
	Class of 1972				Class of 1980			
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Enrolled in 4-year college	29.3	27.0	27.9	27.5	32.3	30.3	30.4	29.9
Worked	8.7	10.8	12.7	14.4	15.4	15.9	17.0	18.0
Did not work	20.6	16.2	15.2	13.1	16.9	14.4	13.4	11.9
Enrolled in 2-year college	14.6	12.8	7.1	5.6	16.8	14.9	10.5	7.5
Worked	8.4	8.4	4.9	4.2	10.8	10.6	7.8	5.8
Did not work	6.2	4.4	2.2	1.4	6.0	4.3	2.7	1.7
Enrolled in vocational-technical school	7.4	5.5	4.0	2.5	3.8	3.4	2.0	1.6
Worked	3.5	3.2	2.6	1.8	2.0	1.8	1.3	1.0
Did not work	3.9	2.3	1.4	.7	1.8	1.6	.7	.6
Other study	2.0	.5	.4	.8	3.1	3.2	.8	1.1
Not enrolled	35.3	42.1	47.8	52.1	35.5	39.2	43.2	47.7
Worked full time	29.6	37.8	43.8	47.8	24.5	29.0	35.2	39.4
Worked part time	5.7	4.3	4.0	4.3	11.0	10.2	8.0	8.3
Other*	11.5	12.1	12.9	11.6	8.7	9.0	13.3	12.3

*Includes those unemployed, those not in the labor force, military personnel, homemakers and those looking for work.
SOURCE: U.S. Department of Education, *The Condition of Education, 1986*, table 1.9, p. 44. Data were derived from the National Center for Education Statistics, National Longitudinal Study (unpublished tabulations) and High School and Beyond (unpublished tabulations).

Table 4.—Percent of male youths of the high school class of 1972 enrolled in any school full time, by race and sequence: October 1972-1976

Sequence* by year:					Percentage of total		
72	73	74	75	76	All males	White	All others
1	1	1	1	1	11.7	12.4	8.1
1	1	1	1	0	12.1	13.2	6.3
1	1	1	0	1	1.3	1.3	1.2
1	1	0	1	1	1.2	1.1	.6
1	0	1	1	1	1.2	1.2	1.3
0	1	1	1	1	1.0	1.0	1.0
1	1	1	0	0	3.8	3.9	3.3
0	1	1	1	0	.6	.6	.4
0	0	1	1	1	.5	.5	.5
1	1	0	1	0	.8	.8	.5
1	1	0	0	1	.4	.5	.3
0	1	1	0	1	.2	.2	.1
1	0	1	1	1	1.1	1.1	.9
1	0	0	1	1	.6	.6	.5
0	1	0	1	1	.2	.2	.1
1	0	1	0	0	.2	.2	.2
1	1	0	0	0	7.1	7.0	7.3
0	1	1	0	0	.9	.9	.8
0	0	1	1	0	.5	.5	.7
0	0	0	1	1	.8	.7	1.0
1	0	1	0	0	1.2	1.1	1.2
0	1	0	1	0	.1	.1	.1
0	0	1	0	1	.1	.1	.1
1	0	0	1	0	.7	.7	.6
0	1	0	0	1	.1	.1	.1
1	0	0	0	1	.6	.6	.7
1	0	0	0	0	9.5	9.2	11.2
0	1	0	0	0	1.6	1.6	1.7
0	0	1	0	0	1.5	1.4	1.9
0	0	0	1	0	1.1	1.0	1.5
0	0	0	0	1	1.3	1.2	2.0
0	0	0	0	0	36.4	34.9	44.0

* "1" in the sequence indicates in school full time for the specific year. "0" indicates otherwise. For example, the sequence, "10101" indicates in school full time in 1972, 1974 and 1976 but not in school full time in 1973 and 1975. The percentages have been rounded to the nearest tenth.

SOURCE: Meyer and Wise (1982), table 9.3.

Table 5.—Mean number of credits required by public high schools for graduation, by year and selected subjects

Selected subjects	School year		
	1981-82	1984-85	1987-88
Total number of credits required	19.7	20.3	21.0
Mathematics	1.6	1.9	2.3
Science	1.5	1.8	2.0
English and language arts	3.6	3.8	3.9
Social studies and history	2.6	2.8	2.9

NOTE: A credit is defined as a class scheduled for a minimum of 200 minutes per week (275 minutes for a laboratory class) for 36 weeks. All credits have been converted to a 4-year base.

SOURCE: Helen Ashwick. "Public High School Graduation Requirements." OERI Bulletin, September 1986. Washington, DC: U.S. Department of Education, 1986.

Table 6.—Percent of students completing the new basics core requirements, by subject area and program, 1980, and mean number of semesters taken in new basics courses, by subject area and year, 1972 and 1980

Program	Overall (total)	English	Social studies	Math	Science	Foreign language
Total 1980	19.5	79.4	78.5	49.7	36.2	51.3
Academic	34.2	87.9	84.5	70.9	53.0	81.2
General	7.5	73.0	82.5	22.9	24.2	21.4
Vocational	3.3	77.7	65.5	26.3	16.9	20.0
	Mean number of semesters					
1972	20.78	6.16	5.37	3.73	3.46	2.06
1980	19.88	6.03	4.66	4.12	3.44	1.63
Change 1972-1980	−.90	−.13	−.71	+.39	−.02	−.43

SOURCE: Data from Educational Testing Service Growth Study. See Alexander and Pallas (1984), table 2. See Fetters et al. (1984), table 2.3.

Table 7.—Percent of high school seniors in academic, general, and vocational programs, by sex and program: 1972 and 1980

Program	All seniors		Male		Female	
	1972	1980	1972	1980	1972	1980
Total	100.0	100.0	100.0	100.0	100.0	100.0
Academic	46.1	38.0	48.7	39.0	43.5	38.4
General	31.7	37.2	33.0	38.0	30.4	35.9
Vocational	22.2	24.8	18.3	23.0	26.1	25.7

SOURCE: Fetters et al. (1984), table 2.1.

Table 8.—Percent change in wage rate or earnings due to an increase in academic achievement equivalent to 100 points on a SAT test

Year of graduation	Median age											
	19	20	21	22	23	25	26	27	28	29-34	39	44-46
1980 (Kang, 1984)(HSB)												
Male	-2.8	-0.3										
Female	-1.0	-.3										
1976-82 (Gardner, 1982) (NLS Youth)												
Male			4.8									
Female			4.8									
1972 (Meyer, 1982)(NLS-72)												
Male	4.7			1.9	4.3							
Female	1.2			5.3	6.0							
1961 (Hause, 1975)(Project Talent)	-3.7				6.1							
1957 (Hauser, 1977)						0.1	0.9	1.9	2.6	3.7		
1938-42 (Taubman, 1975) (NBER-TH)	-9.5			-2.3						4.2		6.6
1939 (Hause, 1975)(Rogers Data)										3.0	4.0	7.8

NOTE: Kang, S. and Bishop J. "The Effects of Curriculum on the Non-College Bound Youth's Labor Market Outcomes." In *High School Preparation for Employment*. Columbus: National Center for Research in Vocational Education (NCRVE) 1984, pp. 55-93.

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DATASETS: HSB = High School and Beyond
NLS-Youth = National Longitudinal Survey—Youth
NLS-72 = National Longitudinal Survey of the Class of 1972
Project Talent
NBER-TH = NBER-Thorndike
Rogers Data

SOURCE: Bishop, J. *Preparing Youth for Employment*. Columbus: National Center for Research in Vocational Education, 1985.

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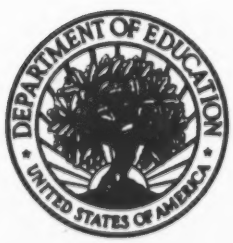

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